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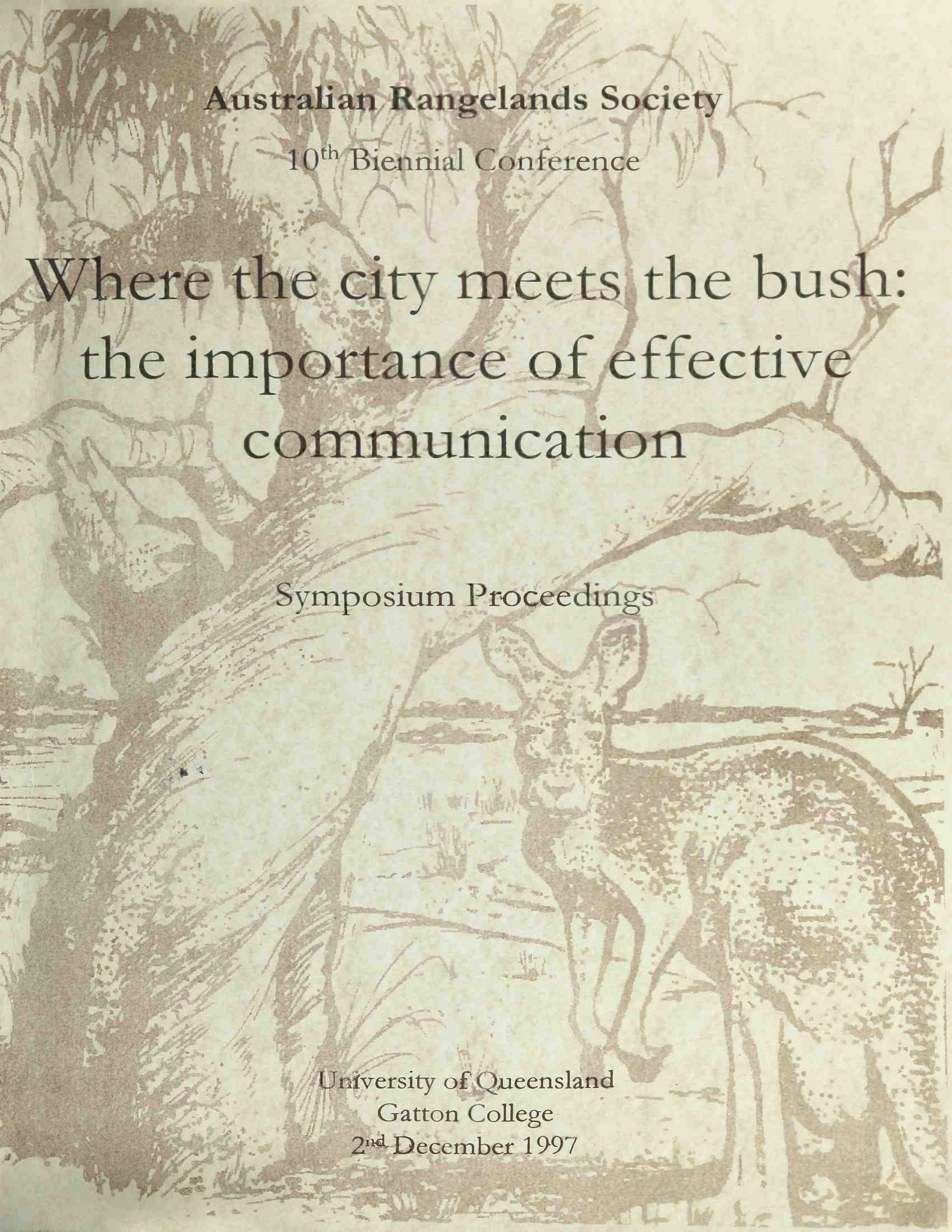

Australian Rangelands Society

10th Biennial Conference

Where the city meets the bush: the importance of effective communication

Symposium Proceedings

University of Queensland
Gatton College
2nd December 1997

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Editors
E.J. Moll, J. Coutts, M.J. Page and C.F. Kilpatrick

Conference Organising Committee
Professor Eugene Moll, and Dr Manda Page
School of Natural and Rural Systems Management
and
Mr Bruce Alchin
School of land and Food

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The Australian Rangelands Society

THE UNIVERSITY OF QUEENSLAND
GATTON COLLEGE

The Executive Dean
Faculty of Natural Resources, Agriculture and Veterinary Science
The Head of the Departments of
- *Natural and Rural Systems Management*
- *Plant Production*

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FOREWORD

More than 75% of Australia is rangelands. Today rangelands not only refers to land grazed by mammalian herbivores, but also incorporates land mined for minerals and fossil fuels, areas set aside for conservation and preserving biodiversity, and areas utilised for ecotourism. Rangelands are also seen as offering a buffer for global factors such as pollutants and CO2 emissions.

The future health and wealth of our rangelands should be of concern to all Australians - whether they are indigenous peoples, pastoralists and/or town or city dwellers. Recently much has been reported in the media concerning coexistence, Aboriginal rights, extinguishment of Aboriginal right by pastoral leases, and the ecologically sustainable use of rangelands. Many of these reports are inaccurate, mischievous and deliberately misleading in order to create uncertainty. The key to avoiding such uncertainty is for all peoples concerned with our rangelands to communicate effectively.

Unfortunately, in today's world the vast majority of "City" people have little understanding of the ecological, social and economic processes that operate in the rangelands. City people are generally separated from their sources of food and energy, and yet they have most of the political influence. "Bush" people on the other hand, have to deal with Australia's boom and bust climatic cycles, and are often at the mercy of economic, social and political wranglings that rarely consider ecological sustainability. Unless we all work together for the Nation's common good, the future is bleak.

Never before have our rangelands been under such threat. It is time for all stakeholders to meet together to resolve differences, and to understand and respect each other's aspirations. If we work together for a harmonious future we can all benefit from the multiple products offered by the rangelands.

During the 1st to the 4th of December 1997 at the University of Queensland Gatton College, the Australian Rangeland Society held its 10th biennial conference. On the first day a suite of invited speakers presented their perspectives on these complex issues surrounding the future of our rangelands. A variety of stakeholders attended to listen and discuss these issues in a non-threatening environment. This publication is a record of that meeting where the participants were provided with a greater insight into the current issues related to the rangelands. This was where the city met the bush in an exercise of effective communication.

This conference, and the subsequent production of this publication, would not have been possible without the contributions of a great number of people. Firstly our thanks go to those who attended and presented at the symposium and conference. Special thanks to Denzil Mills, Simon Campbell, Andrew Nicholson and John Craig who were invited to, and gave their perceptions of the papers presented at the symposium. We appreciate the contributions made by those organisations listed on the previous page to the running of the conference. Thanks to Alice Moll, the conference organisational and administrative assistant, for contributing so much time and effort to ensure the conference ran smoothly. Thanks to the staff and students of Gatton College for taking care of the numerous small but important tasks. Special thanks to Catherine Kilpatrick and the Rural Extension Centre for their work and support in producing this publication. We also acknowledge the contribution of Emeritus Professor Rod Jensen and Mr David Byrne who presented at the symposium, but whose papers could not be included in this publication.

The views expressed in these proceedings are those of the individual authors and do not necessarily represent those of the Australian Rangelands Society. All papers have been refereed by at least two independent reviewers to check scientific validity.

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IS ANYONE OUT THERE? DO THE RANGELANDS HAVE A FUTURE?

Robert J.S. Beeton
Department of Natural and Rural Systems Management, University of Queensland, Gatton College 4345

The theme of this meeting is clearly one of seeking a balance between naturalness and usefulness. That is, we seek the illusion of a perfect natural landscape in harmony with our endeavors. This goal has puzzled me for many years. What I have learnt is that the solution does not lie in compartmentalisation. We cannot divide the landscape up into bits and define from first principles how each bit should be managed. The logical deduction from this is that we cannot all study the problem from our pet paradigm, be it economics, ecology, remote sensing, agricultural production or biodiversity protection, and hope that by shouting at each other truth will emerge. Neither, I suspect, can we invent a new paradigm like ecologically sustainable development, be it so noble an outcome, and hope to achieve it using old skills alone. I have taken the opportunity given by this paper to try to question the orthodox, and to open a discussion. The paper is intended to be inductive and questioning, not informative and explanatory.

As a sweeping generalisation we seek best practice rangeland management as an ideal. Best practice as a concept relies on an activity being related to a bench mark or outcome. In environmental management the bench mark is frequently socially defined either by an explicit group process or a more open scanning of the social acceptability of some change. Thus the current fetish with Best Practice Environmental Management relies on an interaction between technology (Science) and socially defined standards usually involving acceptable change to natural conditions. Clearly complexity abounds, technology involves trade-offs between cost and effectiveness. The probability of failure and level of acceptable risk are real issues. Standards of acceptable change require some definition of the natural range of conditions of the system and an understanding of how the change of this condition is related to change variable(s).

Figure 1 is a simplification of the theory behind the problem. A system may be moving within a defined range depending on the natural variability in the system and the process which drives it. Human activity increases both the variability of the system and the individual organismic response. The real question is "what are the limits to acceptable change", and even more importantly, "what is the altered probability of dramatic change?" These considerations are further confounded by the problem of reversibility. For example figure 2 shows a curvilinear response to disturbance. Here the system's rate of change is increasing beyond a certain amount of disturbance. The problem for the manager is that often there is no clear indication of the point of change in the liner response phase. In models such as this the relaxation pattern can vary depending on the point at which relaxation is applied. Several possible scenarios are given in the figure.

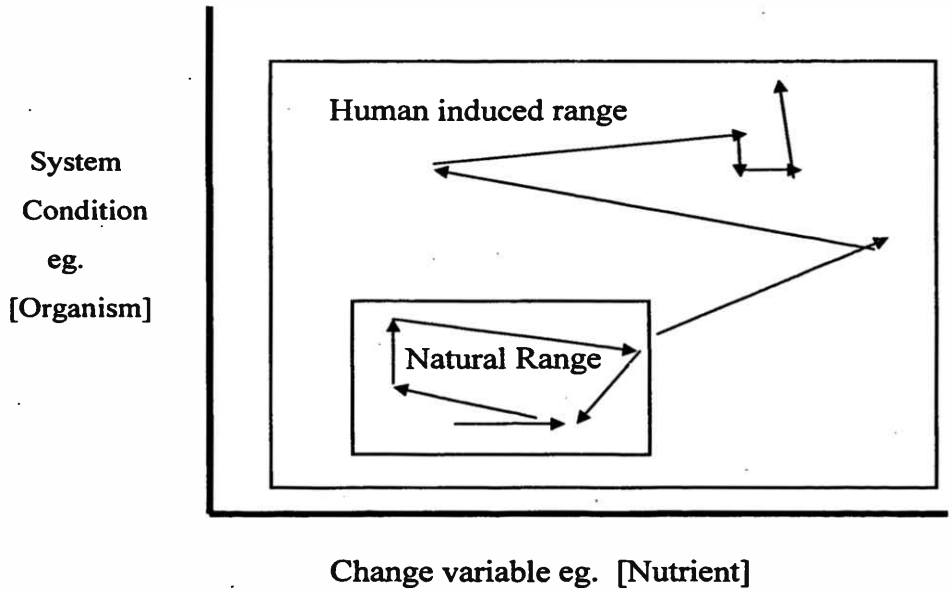


Figure 1. The hypothetical univariate relationship between the natural range of two variables in nature, and human induced range.

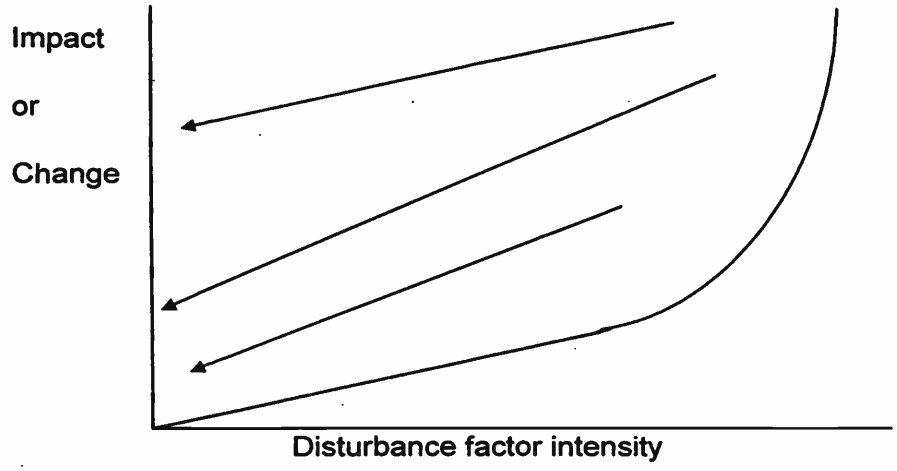


Figure 2. One of many models of change for rangeland systems. In this model the response is curvilinear and the relaxation varies depending on the disturbance level at relaxation.

Thinking about the changing contexts of protected area management (on possible rangeland use) is a way of trying to understand the relationship between this changing context and the practice of management. I find that all the issues I referred to earlier apply to this specific context. Society defines acceptable levels of change, and the definitions of naturalness are particularly relevant. These social definitions change over time and are usually constructed with a profound ignorance of the real past as opposed to a culturally defined past. In addition a culturally defined ideal past, by its nature, lacks any system dynamics.

This interaction of social and scientific understanding reflects the insights which come from the work of Sandman (see Appendix 1). This work which is in the area of environmental health is applicable to many rangelands issues. In the case of protected areas, the evolution of management paradigms also reflects this tension between the social and scientific understanding. Figure 3 traces the evolution of these paradigms as they have been used to declare and manage protected areas in the face of landscape change. The figure suggests two converging themes, the first is the fragmentation of landscapes which of necessity accompanies development, and the second is the evolution of environmental consciousness. Clearly there are interactions between the two themes. An awareness of the loss of amenity led to the earliest concern with conservation of aesthetically pleasing landscapes, and the emerging management paradigm saw National Parks as ***crown jewels.***

The next change in consciousness occurred as species with specific habitat requirements or niches which overlapped with domestic animals, were driven to extinction. As an awareness of this spread a more biocentric view of the role of protected areas was developed. This model saw National Parks and Reserves as ***species arks for the unfit and the charismatic.***

The development of conservation biology as a discipline has fed off and interacted with concepts of biodiversity preservation which are essentially an expansion of the extinction problem. The development of this paradigm led to a concept of National Parks and Reserves as ***living museums*** in which the complexity of nature could be preserved in perpetuity. The response of protected area managers was to see in this model an opportunity to expand the protected area estate and a wave of acquisition followed in a political environment driven by indices of success which measured biodiversity capture in various forms. In Australia concepts such as World Heritage have, for constitutional and political reasons, been deeply integrated into this framework.

Further development of conservation biology and the practices of protected area management led to an emerging realisation that integrated systems of biodiversity capture must include additional landscape elements. In Australia this has included forestry areas and the use of World Heritage designation as a landscape capturing concept. As an aside, Australia's effective ignoring of the Biosphere Reserve model is puzzling. The most likely explanation lies in the apparent disconnection between the proponents of landscape capture for conservation and the rural community.

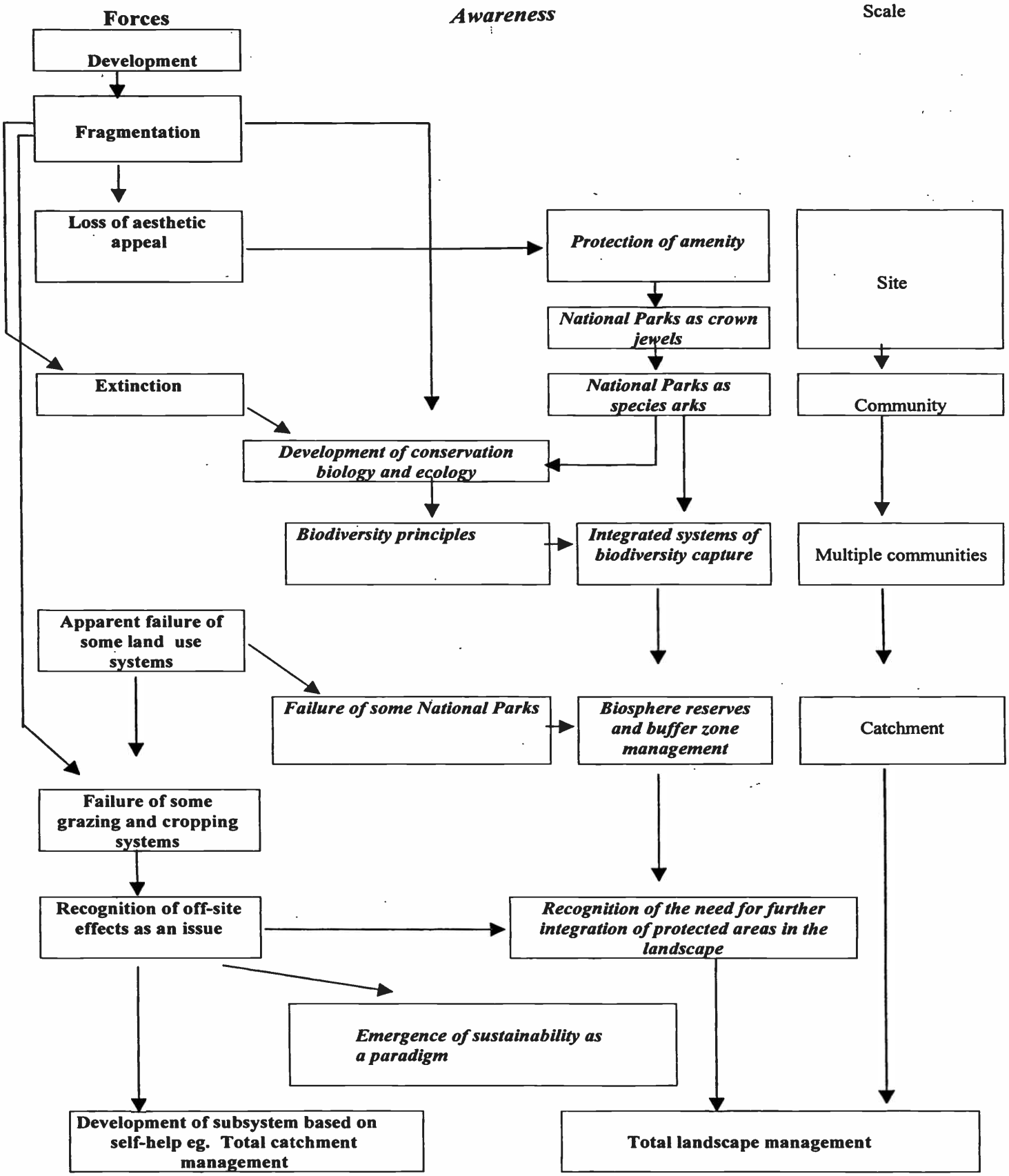


Table 3. The evolution of management paradigms over time showing changes in scale.

The last stage of the fragmentation theme is the apparent failure of land use systems to demonstrate economic, ecological and social sustainability characteristics. This gives rise to the concept of sustainable development and the application of restoration principles at a landscape level. The parallel development in protected area management is the emergence of a realisation that protected areas must, of necessity, be integrated into landscape systems. These convergent themes are reflected in this symposium.

The trend which is striking as one surveys the change in outlook which has taken place, is the changing perception of the scale at which we must focus management. In Figure 3 I have illustrated that this change in scale has consistently been from a preoccupation with small scale sites through to total landscapes.

Perhaps my message for today is that the themes must stop interacting and come together at a scale which makes ecological sense. Similar models can be constructed for the cultural, economic and social systems which exist in the landscape. Figure 4 suggests how we currently treat these systems while Figure 5 suggests how we should perhaps see them. The rather pretentious end point of my models is total landscape management. This may involve the distinction between public and private lands becoming blurred perhaps to a point of disappearance.

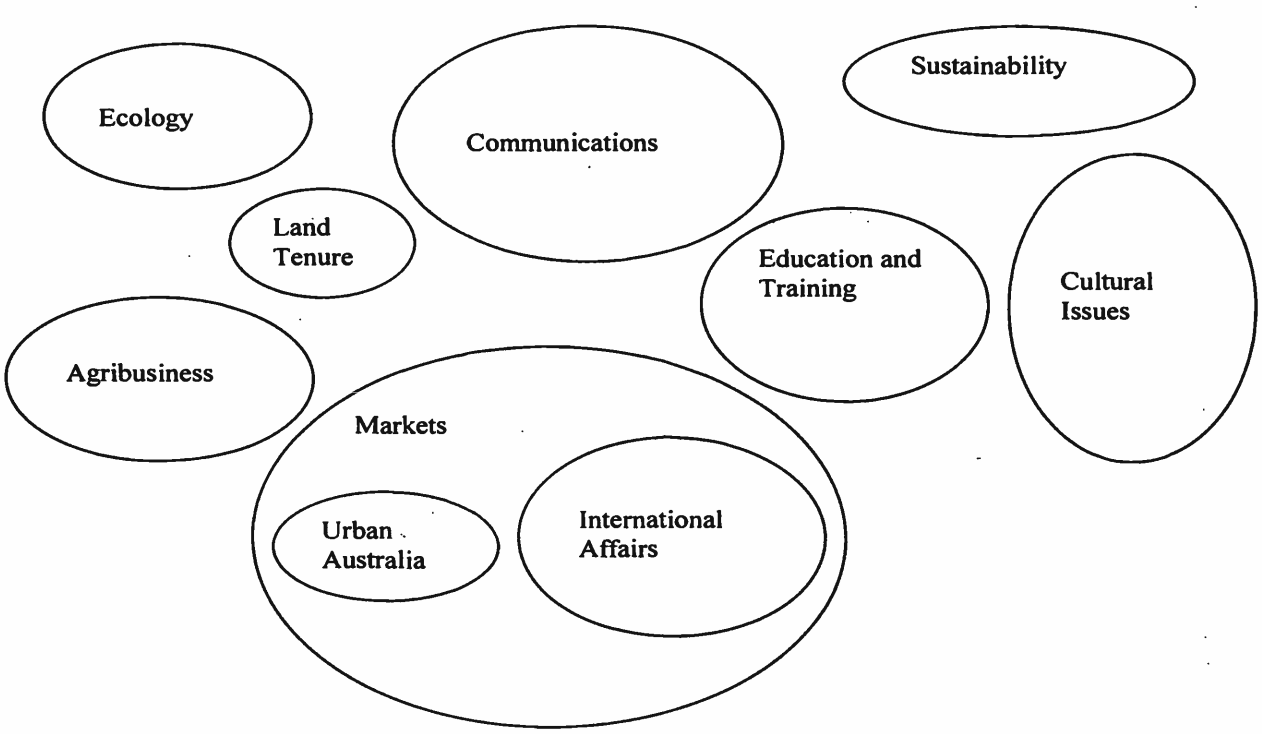


Figure 4. How we think; how we currently treat themes and concepts relating to the management of natural and rural systems.

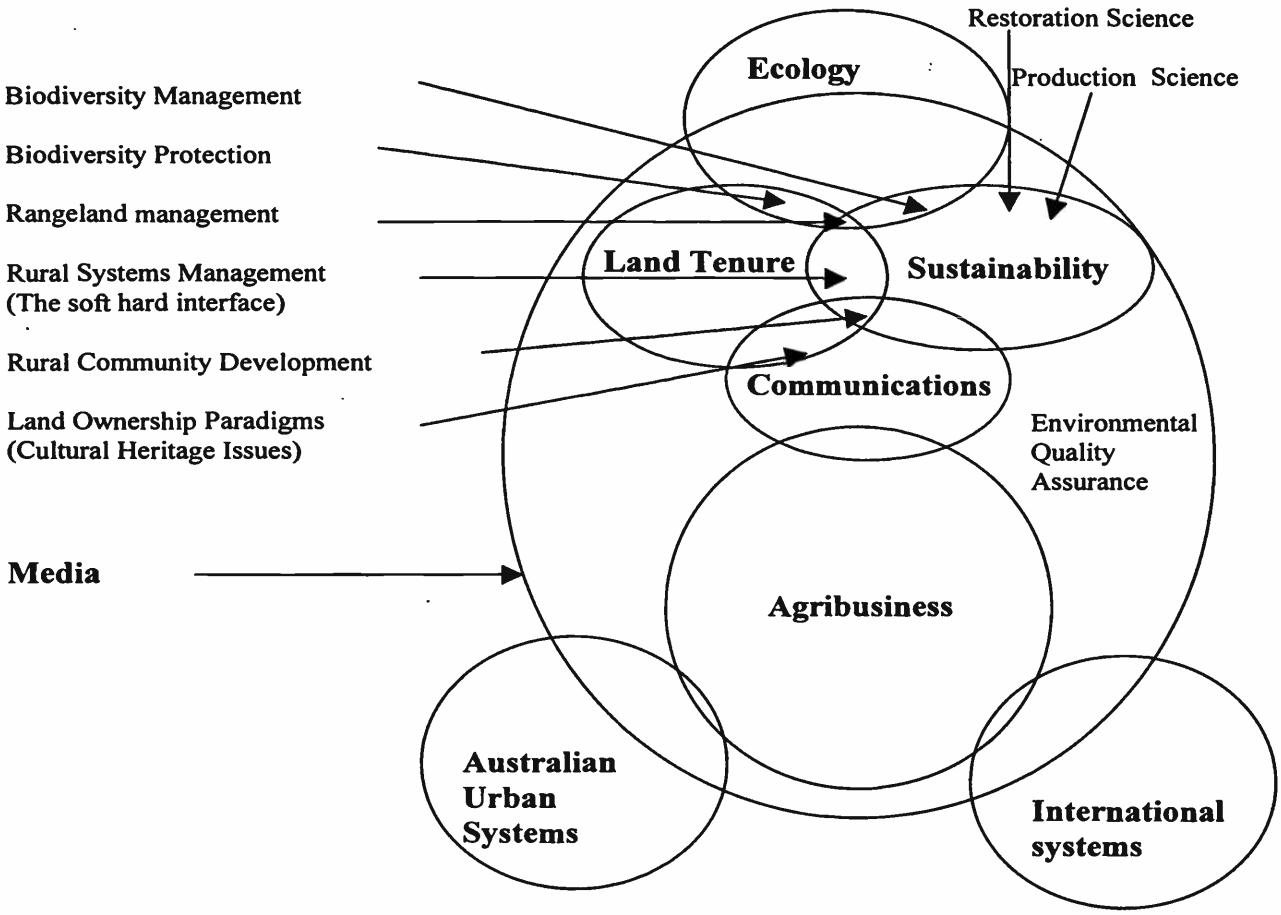


Figure 5. How we should think; natural and rural systems management conceptual framework.

In reality where are we now

Currently the sustainability paradigm has been accepted as a theoretical model by productive land managers. Protected land managers are just accepting that to conserve systems based on strictly protected reserves alone will in some, if not all, cases fail. This failure is not necessarily a size dependent phenomenon as succession itself can be a force for extinction in a fragmented landscape. In fact the big is best model may, in a landscape biodiversity capture sense, be a dangerous fallacy.

To me we are now on the cusp of significant change. While integrated catchment management appeals, one could reasonably argue that the model we must seek is ***total landscape management***. I believe this because the social and economic prescriptions which are necessary to achieve enduring change operate at a scale beyond the biophysical scale of a catchment. The problem of evolving a practice for this is the difficulty of merging public and private land management practices. The range of issues is huge. Among them are issues of how we view land ownership, who pays for the offsets involved in passing a productive and diverse landscape to future generations, and a host of technical matters relating to the management of systems which have biophysical, economic and social elements.

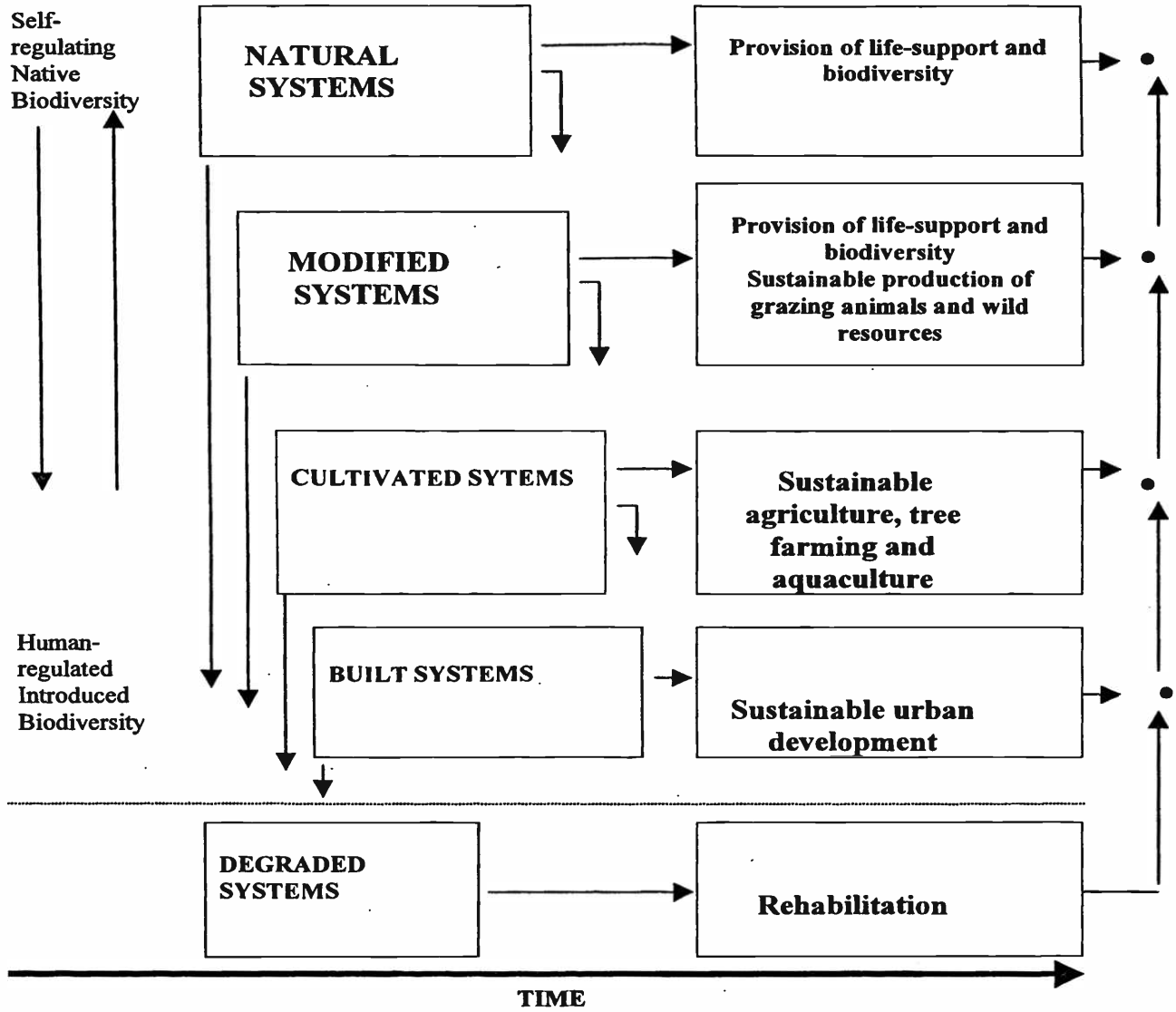


Figure 6. The ideal landscape continuum. (Adapted from Allen 1991).

Pulling the landscape together

We need to seek ways of moving from a fragmented landscape to an integrated landscape. A conceptual framework was presented in Caring for the Earth (Allen 1991) (Figure 6). This model recognised a role for each level of landscape change in an integrated but interdependent system. However, to move from concept to practice will require adaptive management systems yet to be invented. We cannot say what these outcomes will be, however, we can recognise some of the forces at play (Table 1). These forces are shaping both conservation and production and are at the same time, while I believe, creating opportunities for them to prosper together. The signs are there in the policies developed by both party groupings in recent elections. While lip service is still paid to the old agendas of species arks and biodiversity capture, the caravan has moved on to managing the landscape. We see the first faltering steps in schemes such as the Murray Darling initiative, COAG resolutions and the National Heritage Trust; all seek to merge social, ecological and economic systems, yet all seem to rely on old ways of coping, hence all are political reflecting the fact that politics always fill a paradigmatic vacuum.

Table 1. Some future shaping forces with reference to the Australian Rangelands (Beeton and Horneman 1996). The future over the next 10 to 15 years will be determined by national and international forces and by the actions of the community. Future shaping forces and some implications for the rangelands include:-

Force	Implication for the Rangelands
1. The globalisation of economic systems leading to increased mobility, interdependence and the restructuring of the Australian economy.	It is unlikely that there will be any change in the general terms of trade for agricultural commodities.
2. The globalisation of selected elements of the political decision making process.	This will lead to increased pressures for sustainable land use practices ie. green and clean production
3. The increasing relative importance of the tertiary and quaternary sectors of developed economies and the increasing interdependence between components of the economic chain.	The relative importance of the rangelands to the economy as a whole will continue to decrease. Yet the restoration of degraded rangelands and rural communities will depend on subsidy from the non rural economy The management of the table to plate supply chain will be a potential opportunity for rangeland based enterprises
4. Opportunities for value adding to exports, for the development of internationally competitive import substitution products and for receiving increased premiums for differentiated products world wide	As above
5. The increasing trend for sustainable resource use	Pressure for guaranteed sustainable practices will increases with environmentally driven non tariff barriers.
6. Climate change and its influence on agricultural systems, life styles and natural systems	Opportunities exist for the development of the rangelands as carbon sinks, biodiversity protection areas and recreation resources.
7. The growth of information and information technology and its use for networking, problem solving, consumer information and education	This could be a factor in the dispersal of population into the rangelands and the development of cyberindustries in rangelands communities
8. The demand for a more responsive public sector operating in competitive national and international environments	See above
9. Wider market opportunities for intellectual products leading to national and international links between institutions and links between public and private sector organisations and tertiary institutions in strategic alliances	See above
10. The growth of commercially driven research opportunities for institutions together with a static and increasingly competitive government research funding pool	The intellectual capital for the rangelands will come from non traditional sources including locally based action research and similar forms of community empowerment.
11. The development of high premiums for value adding to information	
12. The acceleration of the trend towards constant retraining of the workforce to meet social, technological and market place change	The reskilling of the rangeland community to exploit new opportunities is essential
13. The contraction of public funding for the public sector and the increasing necessity for independent fund generation	Self help in community development will be a requirement even if the tax system is used for restoration
14. The evolution of national models of technology transfer to the work place which use a mix of inhouse training, training partnerships and specialist providers	
15. The national trend towards life time learning based on the principles of recognition of prior learning, competency based training and articulation	
16. The development of an intensely competitive education market at all levels in Australia. This will create new opportunities for public sector agencies and private enterprise.	

17. The change from representative to participatory democracy characterised by community learning, community consultation and community participation. This will lead to an expanding role for regionalisation of government and local government services.	Regional governance is a real possibility
18. The demand for quality service from all organisation both public and private	
19. The increasing trend for the out placement of services with the private sector and the demand that quality be assured	Small scale rural community based businesses could benefit from this trend.
20. The move from cadastrally defined management to systems management based on catchment or landscape units.	The opportunity to create communities based on rational natural resource boundaries and social networks
21. The growth of industries based on native products	
22. The emergence of native title and the demands for co-management of native title and other Protected Areas.	Native title holders will be a key element in the emergence of vibrant rangeland communities
23. The growth of the use of protected areas for local, national and international tourism	
24. The increasingly globalised and competitive tourism market requiring quality assurance for services delivered on public lands	The role of landscape and sense of place will create new business opportunities for rangeland communities and individuals
25. The emergence of the private sector as a service provider on Protected Areas.	Protected Areas may have local service provision
26. The development of public participation in management at all levels	
27. The development of more sophisticated systems of problem solving incorporating multi-criteria option evaluation and there application to continuous planning cycles will lead to the abandonment of familiar management planing models and the adoption of co-operative management with communities	
28. A redefining of the role of government agencies to meet new political systems (including the new ethics)	
29. The demands for the restoration of natural systems will place new demands on the application of integrated resource science	

New management systems which are inclusive and integrating are needed. Some of the characteristics of such a system must be that they:

- can work in a management arena which emphasises independence
- are able to identify and understand the forces which shape our future
- are capable of objective problem definition and problem solving using multiple paradigms, and
- can facilitate social, cultural, economic and ultimately ecological change.

Problem definition is what we tend to be worst at doing. We are good at training people to solve problems in artificially constructed arenas. This is natural if you consider the conventional frame of academic research and undergraduate training. For example, the scientific production paradigm dominates agricultural science in most, if not all, Australian universities. Problems arise when training forces people subconsciously to fit the definition of problems into a predetermined mould.

My great concern is that conservation courses are making the same mistake. They are narrowing the vision of the technically competent people they produce by constructing a disabling world vision of a politically correct green arena in which their technically competent graduates are expected to operate. If this process continues and we fail to open the frame in which we think of problems, it is likely that a divide will develop between two hostile and competing cultures. This divide will disable landscape management and landscape restoration, unfortunately there is evidence that this is happening right now!

My thesis is that we must in the future hone and develop the problem definition skills of the professions required for the pursuit of sustainability. If we can do this best practice will become a dynamic concept. That is we will be working in a range of models which are situationally defined. This requires that we invent new ways of doing science, policy and

management. The light on the hill may be harmony among stakeholders and their professional advisers. The reality will require more honest and effective ways of talking and working together. In a world where rural stakeholders live in Boulia and Balmain.

The actual landscape in which problems are addressed will also change. I currently see three non exclusive models of future landscape management systems. The model found in any given region will be determined by the interplay of social, economic and environmental factors peculiar to the region. Figure 7 presents a draft of these models.

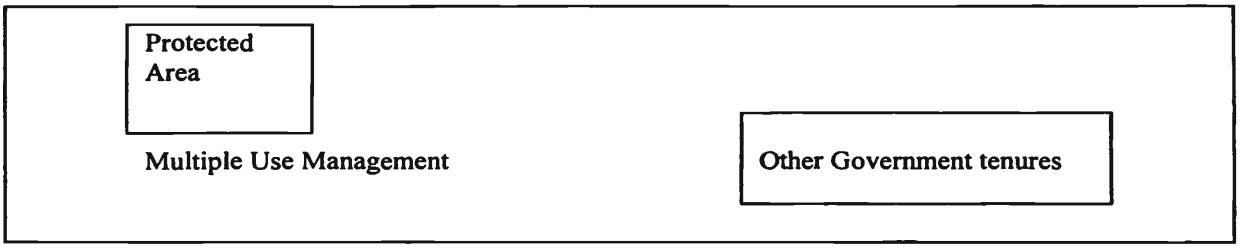
These models ask more questions than they answer. The most pressing of these question include.

- Who pays for the adjustment necessary ?
- Are the best models of change one based on the use of coercion or is conversion a better alternate way of gaining acceptance of the changes in individual relationship and the relationship of the individual with the State?
- Can models of management be developed which can accommodate the competing demands for landscape use?

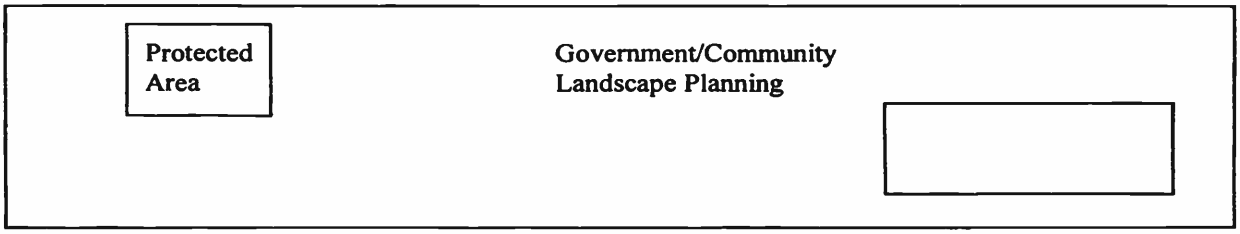
Conclusion

My conclusion is to suggest that we are today thinking thoughts which many of us would not have dreamed of a few years ago. Perhaps in this end of millennia decade we can evolve a landscape care ethic which allows the convergence of practices and preoccupation's which have up to now been seen as incompatible; I hope so for the alternative is unthinkable. I hope a paradigm is out there and this symposium lets them in !

Model 1: All lands are vested in Government and managed to meet proscribed Objectives (eg. Retired grazing lands)



Model 2: All lands are in multiple tenure and managed within a planning framework



Model 3: Protected Areas and buffer zones are managed to a prescription other areas are managed to meet the objectives of their owners

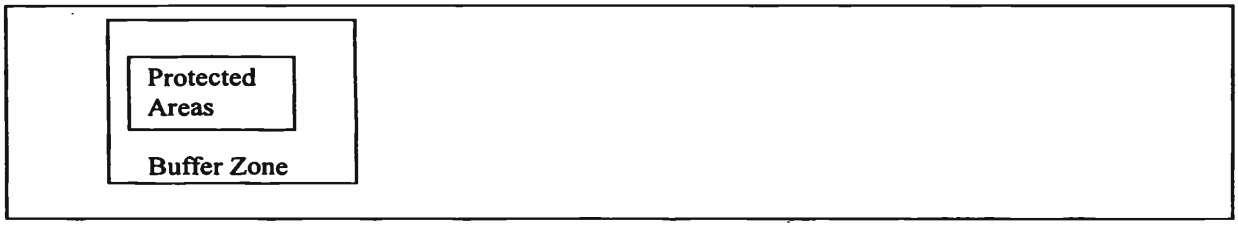


Figure 7. Models of landscape management.

Appendix 1: Mass media and environmental risk (Sandman 1997)

Peter Sandman's seven principles

1. The amount of coverage accorded an environmental risk topic is unrelated to the seriousness of the risk in health terms. Instead, it relies on traditional journalistic criteria like timeliness and human interest.
2. Within individual risk stories, most of the coverage isn't about the risk. It is about blame, fear, anger and other non technical issues -- about "outrage," not "hazard."
3. When technical information about risk is provided in news stories, it has little if any impact on the audience.
4. Alarming content about risk is more common than reassuring content or intermediate content -- except, perhaps, in crisis situations, when the impulse to prevent panic seems to moderate the coverage.
5. Exactly what information is alarming or reassuring is very much a matter of opinion. The media audience tends to be alarmed even by information the experts would consider reassuring.
6. Reporters lean most heavily on official sources. They use more predictably opinionated sources -- industry and experts on the "safe" side, activists and citizens on the "risky" side -- when they need them.
7. Although the competition for journalistic attention is tougher for sources seeking to reassure than for those seeking to alarm, coverage depends even more on a different distinction: skillful sources versus inept ones.

Strategies for dealing with the modern media

In general, four biases prevail, both in media risk coverage and in readers' and viewers' responses:

(1) alarm over reassurance,
(2) extremes over the middle,
(3) opinions over data, and
(4) outrage over hazard.

There isn't much *you* can do to adapt to the first bias. The other three, however, can be productively deferred to.

Avoid intermediate or mixed positions. Stake out a stance that is clearly pro or con. If you must peddle the middle, work hard to make it interesting.

Focus more on opinions than data, more on anecdotes than tables and charts, more on concrete nouns and active verbs than jargon and abstractions. When you have a piece of data worth showcasing -- which happens much less often than you think -- use every strategy to simplify it, personalise it and put it into human context.

Above all, focus on outrage. The most impactful statements an environmental activist can make aim at increasing, focusing and mobilising outrage. These statements are likeliest to get in and likeliest to affect the audience. Conversely, the most impactful statements an industry spokesperson can make to the media are aimed at reducing outrage: acknowledging problems, apologising for misbehaviours, offering to share control, explaining what the source is doing and what the audience can do to mitigate the risk, demonstrating accountability in lieu of trust, etc. Sources convinced that a risk is huge usually know how to work the outrage. In contrast, sources convinced that it is trivial usually mistakenly believe that the key task is to explain the data. They -- and if they are right about the risk, the rest of us -- are paying heavily for this mistake

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RANGELANDS IN A PLANETIST FUTURE

Peter Ellyard
Preferred Futures, Melbourne

Introduction

This conference focuses on the relationship between the city and the bush, and the implications of this relationship for the future of rangelands. The future of this relationship will depend on what is happening to the mindsets and values of the people in the city and the bush.

The planet on the threshold of the new millennium

As we approach the threshold to a new millennium, we are witnessing the birth of a new planetary culture. A "century of the planet" is at hand. The Earth is becoming more interdependent and cooperative. This new planetary culture is being moulded by a combination of political, economic, technological and ecological forces of great power, all working synergistically to create it. My grandparents grew up identifying themselves with Western Australia and New South Wales rather than Australia. My grandchildren will identify themselves with their planet as much as their nation.

To illustrate the magnitude of the changes, consider these three historic processes which dominated global politics in the mid 1990s:

- A global trading system is being born through the GATT Uruguay Round and the World Trade Organisation (WTO). The first stage is now complete. In the next few years further agreements to ensure that international trade does not reward traders who plunder the environment and exploit labour will be enacted through the WTO.

- At the same time, a new planetary environmental order is being realised through the Montreal Protocol (relating to the phasing out of ozone-depleting substances), and the outcomes of the 1992 Earth Summit, including the Conventions on Climate Change and Biodiversity. The World Bank's Global Environmental Facility has been established to fund the more effective management of the planetary environment outside the jurisdiction of individual countries, and to complement its work with them. A Commission on Sustainable Development (CSD), has been established by the United Nations, as has an Earth Council, with headquarters in Costa Rica, by international Non-Government Organisations (NGOs) of the planet. Thus the World is being united by ecologically driven fear - fear of global ecological disaster. For centuries fear has divided humanity. Now it is beginning to unite it. Fear, traditionally a force which prevents change and reform, is now becoming a major factor in encouraging cooperation, change and reform. The fear of unpredictable climatic change and an ozone-depleted atmosphere is forcing people to think 40 years ahead, and to cooperate on an unprecedented level. It is like being in New York in a snowstorm or in a town undergoing a major flood. In these circumstances people who are indifferent or even hostile to each other start to assist and help one other. The planetary equivalent to this snowstorm or flood is climate change or ozone depletion. However, this time there will be no melting of the snow or subsiding of the water level so that people can quickly return to their old indifferent and hostile ways. The problem will continue to grow for decades, and it must be met by unprecedented and continuing levels of international cooperation: this is an emerging culture of interdependence.

- Finally, a new planetary security system is also struggling into existence. In 1946, Australia's Foreign Minister, H. V. Evatt, played a leading role in the development of a United Nations Charter which gave the United Nations the responsibility of playing the role of both planetary peacemaker and peacekeeper. The Cold War prevented the United Nations playing the peacemaker role totally, and severely restricted its peacekeeping role. Machinery to permit the UN to fully play these roles have yet to be established. Meanwhile the UN has started to act in an *ad hoc* way. It put Saddam Hussein back in his place, and has acted in planetary crisis points such as Bosnia and Somalia, with limited success. However, it is certain that the UN's performance will improve as permanent peacemaking and peacekeeping machinery is put into place. The failure of the world to come to grips with the ugly realities of Bosnia has reinforced the need for the creation of global peace-making machinery. In more recent times the world disapproval of the SLORC regime in Myanmar (Burma), and the Military dictatorship in Nigeria, should be noted. Both are developing global pariah status.

Despite the resistance and difficulties which each of these three historic changes is facing, all are likely to be consolidated and in place by the end of the first decade of the 21st century.

At the same time the European Community is being formed. Soon it will invite Eastern Europe to join it. The great resistance of some Europeans to the birth of a new European Community slowed down the confederation process, but did not stop its formation. The rise of national fervour in Eastern Europe and Western Europe in such places as Catalonia is related to the break up of the old security arrangements formed in the Cold War. This is not a disintegration of Europe, as some people have maintained, but a painful breakdown of old arrangements before the formation of new ones. The Slovenias and Latvias of Europe have recently shifted from a status of dependence to that of independence. In the next few years they will seek to become part of an integrated European Community, just as Luxembourg has been

for many years. The "Common European Home" was first prophesied by Pope John 23rd, and later, by President Gorbachev. It is being created before our eyes.

In North America economic union is also coming. The leaders of the USA, Canada and Mexico have signed the North America Free Trade Agreement (NAFTA), which is the first stage of a single economic community; "from Alaska to Argentina" which will be completed by 2010 at the latest. The Mercusur Agreement linking Brazil, Argentina, Uruguay and Paraguay has been consummated with Montevideo likely to become the Brussels of the Americas. In our own region the Bogor Declaration in 1994 committed the APEC region to complete economic and trade integration by 2020.

For more than a century a continuous process of globalisation and internationalisation has been under way. During this time people have transferred their primary loyalties from their town or city to their region or state, and finally to their nation. In the 1990s the final step to the development of a new planetary culture, the transfer of primary loyalties from nation to planet, will begin.

Other forces are also pulling us in the same direction. Information and communications technology is building a single, highly networked world. By the end of the century everyone on Earth will be able to witness, and to a degree participate in, a single event somewhere on the Earth's surface. Space separation and time zones no longer prevent people working together. Teleconferencing, e-mail, multi-media workstations and faxes are only some of the new tools of planetary cooperation and dialogue. New computer software is now assisting cooperative dialogue and decision-making independent of space and time. One of the biggest areas for innovation in information technology in the 1990s will be work which uses information and communications technology for cooperative and collaborative work, including work where participants are separated in space and time.

The Internet connects millions of people around the world. It provides them with electronic mail, a news service, remote computer access, remote database access, and many newer services. We are evolving towards ***cyberspace***, a word and concept coined by William Gibson in his science fiction classic, ***Neuromancer*** (Gibson 1984).
We are hearing and sharing the same news around the world by the courtesy of modern technology, and it reminds us that we share one small and vulnerable planet. A Minamata, Chernobyl or Exxon Valdez catastrophe reminds us of this shared fate and responsibility, even if we do not appear to be directly affected. We know more about what is going on all over the planet than ever before. John Donne's famous Devotion of the year 1620, has never been more true:

No man is an Island, entire of itself;
Every man is part of the continent, a part of the main;
If a clod be washed away by the sea,
Europe is the less, as well as if a promontory were,
As well as if a manor of thy friends or of thine own were;
Any man's death diminishes me, because I am involved in Mankind;
And therefore never send to know for whom the bell tolls;
It tolls for thee.

John Donne, 'Devotions upon Emergent Occasions' XVII

The Cowboy and Spaceship cultures
In the 1960s Kenneth Boulding (1966) wrote a famous essay called "The Economics of Coming Spaceship Earth", and about the same time Buckminster-Fuller (1969) wrote a book entitled ***Operating Manual for Spaceship Earth***. Both authors drew on the metaphor of the Apollo Mission, and particularly the famous picture taken from Apollo 8 which showed the beautiful, blue and white, fragile Earth against a lifeless moonscape in the foreground. Just after the near disaster of Apollo 13, which was the subject of a recent film, the then Secretary-General of the United Nations, U Thant used the metaphor of the Apollo Mission that nearly ended in disaster to promote the 1972 Stockholm Conference on the Human Environment, indicating that the whole planet was indeed in the situation of Apollo 13.

Kenneth Boulding introduced the idea that the Earth needed to change from a "cowboy economy to a "spaceship economy " if life on the planet was to survive. Today at the mid point of the 1990s humanity is mid way through a transition between what can be recognised as a disappearing ***Cowboy Culture*** and an emerging ***Spaceship Culture*** in the 21st century. We now recognise the Cowboy Culture as an unsustainable society and the Spaceship Culture as a sustainable society. The characteristics of ***Cowboy*** and ***Spaceship Cultures*** are set out in Table 1.

Table 1. Characteristics of Cowboy and Spaceship cultures

From	To
The Cowboy Culture	**The Spaceship Culture**
Individualism	Communitarianism
Independence	Interdependence
Autocracy	Democracy
Humanity against nature	Humanity part of nature
Unsustainable production & consumption	Sustainable production & consumption
Patriarchy	Gender Equality
Intercultural & interreligious intolerance	Intercultural & interreligious tolerance
Conflict resolution through confrontation	Conflict resolution through negotiation
Reliance on Defence	Reliance on Security

The journey from the shoot-out at OK Corral and life on the frontier, to negotiated sustainable living in the Spaceship, is a metaphor used to describe the journey humanity is already making and will most likely be completed by about the year 2025. By the mid 1990s it was already clear that communitarian cultures such as Japan, Korea and Germany were achieving greater economic success in the new global economic environment than individualistic Anglo Celtic cultures such as the UK, USA and Australia. This is partly because their core cultures were more compatible with the emerging interconnected interdependent world of the 21st century.

The 19th century was the century of ***dependence***, most of us lived in colonies. The story of the 20th century has been one of ***independence***. The last European empires, the Russian and Serbian empires crumbled, and others such as China and Indonesia could follow. The story of the 21st century will be one of ***interdependence***, living and collaborating on an networked planet. The word ***interdependence*** is a key word to describe our evolving just-in-time, environmentally sensitive society; interdependence between men and women, between tribes and nations, between enterprises, between employer and employee in our work places, and between humanity and nature.

The world's religions have been slow to recognise this extraordinary shift. As it is, there has been an astonishing reappearance of pantheism in the West. On the other side of the coin is the even more aggressive rise of religious fundamentalism. The world religions seem to be splitting in two, into a progressive part, which is moving into the 21st century, and a reactionary part which is in a state of future shock, and which wants to return to the 19th century or even earlier.

Religious fundamentalists are religious cowboys who still believe in patriarchy, authoritarianism and even killing in the name of religion. The world's religions are like everyone else, they are divided between adherents of the cowboy culture and adherents of the spaceship culture. For example the battles over issues such the ordination of women represent a major challenge to church cowboy patriarchy.

We are all aware of the intolerance of the Islamic, Christian, Jewish, Hindu and Seikh fundamentalists, who are causing such crises in virtually every major religion. I am of the view, and this may be somewhat controversial to some, that Rome itself shows some of this fundamentalism, though of course not its intolerance and violence. Meanwhile, religions such as the Baha'i, the Quakers and Buddhism, which preach universality, tolerance and caring, and which do not have significant fundamentalist wings, are receiving more respect and attention in the West. On his last visit to Australia the Dalai Lama drew immense crowds wherever he went.

The emergence of the spaceship culture has advantaged women. They were massively disadvantaged in the cowboy culture, but they are more at home than men in the emerging Spaceship Culture. Feminists, who until recently, have focussed on the development of gender equity and on moving women from ***dependence*** to ***independence***, are now beginning to move on to ***interdependence***, at least in those parts of the planet where the Spaceship culture is already beginning to dominate. In the remainder of the Planet which is still dominated by the cowboy culture, women are still in as much trouble as they ever were, they are still caught in the web of ***dependence***.

The transformation of our society of the last 20 years from one which promoted individual rights over community rights has changed to the point were community rights are now seen to be more important than individual rights. The battles in the 1990s over smoking in public and gun ownership are just two manifestations of this battle between community and individual rights. The community has won in each case but not without bitter conflict between the community and some defenders of individual rights.

The gun control debate is continuing to focus our attention on the issue of community violence. In reality it is my view that the world is actually not more violent, but thanks to technology, its capacity to do damage has increased immensely.

In the cowboy days the enemy tribe lived in another territory and tried to take our land by force, he came over the hill with guns blazing. Defence is the form of protection for a cowboy era. Now the enemy might live amongst us, a fellow passenger on the spaceship. We are now moving from an era of defending the territory from invasion (i.e. defence) to protecting ourselves from threats from within (i.e. security).

The threat of nuclear war has been replaced by the threat of the terrorist: episodes such as the Oklahoma City Bombing, the poisoning of Japanese subways, the Waco incident, the formation of far right military cells in rural areas of the USA such as the Free Men in Montana. We have discovered extremists in our own rural areas through the gun debate.

The tragedies in Dunblane and Port Arthur in 1996 have led us to the conclusion that we really needed to consider this issue of escalating violence. Finally we are concerned with the violence of our mass media and from Hollywood in particular. All these are manifestations of the promotion of cowboy cultures in a world which is increasingly adopting the values required for life in the spaceship. The tragic massacre in Port Arthur in May 1996 lead to some heated debate amongst the Australian community. With a majority of 90% of Australians in favour of gun control it seems irrational for there to be any debate at all. However the debate is really not about gun control, it is instead about individual rights versus community rights, or the battle between ***independence*** and interdependence. The Australian public heard some elected politicians, such as Bob Katter Jnr claim that the Port Arthur massacre would not have occurred if all the people present in Port Arthur that day had been armed and could have shot the gunman dead before he killed anybody. He was promoting a genuine cowboy cultural solution, in an Australia where the majority are already at least partial adherents of the spaceship culture. Many of these cosmonauts found Bob Katter Jnr's solution offensive, tragic and even ludicrous.

The gun debate has in fact been an extremely significant point in our transition of evolving mind-sets, not only have we witnessed the debate over community rights but we have seen a concurrent review of violent behaviour. Violent videos, computer games, music, literature and TV programs have all been subsequently targeted by Government action. The important issue in this is not merely the removal of access to questionable material from our children and adolescents, but rather the introduction of a process which promoted responsible and caring adulthood.

My view is male violence, particularly amongst youths, is due to the fact that we have been unable to transform our role model for maleness as we make the bigger transformation from the ***Cowboy culture*** to ***Spaceship culture***. Many of these violent episodes could be seen as attempts to live by a ***Cowboy lifestyle*** in an ***Spaceship society***, or as a Rambo in a ***Spaceship culture*** which finds Rambo behaviour increasingly threatening and offensive. Many of the violent films produced by Hollywood in the late 20th century represent the last gasp of this urban cowboyism, and their box office success demonstrates the difficulty many of us are having in coming to grips with this change. The people filling the theatres showing these films are mostly people who are more comfortable within a cowboy culture. Those who are horrified by this film violence are the emerging spaceship majority.

I think what we need to do is to develop a new role model for spaceship masculinity. Given that dominant role (or archetype) model in our society in recent times has been the rugged cowboy, it is worth wondering if there are alternative archetypes in our collective unconsciousness which we can rediscover and rehabilitate for the modern era, or whether we have to create a genuine new model for being male in a spaceship culture. It is interesting that many of the space travel science fiction stories on film are really examples of a cowboy culture in a spaceship environment, with battles between good and evil and intertribal/ intergalactic conflict. Such narratives might be technologically advanced but they are sociologically archaic.

The division of Australia over the issue of gun control illustrates the relative proportion of Cosmonauts and Cowboys in Australian society. Australia's rangelands have a lot of cowboys, and while cowboys are relatively fewer in the city there are lots of them in the country. They are supporters of Pauline Hanson, the National Party, and they have taken the hard line against co-existence of Aboriginal land title seeking a virtual return to "Terra Nullius". Therefore the issues of rangeland management are dominated between the tensions between the cosmonaut and cowboy populations, and their value systems. If city and bush are to come together there has to be a reconciliation also. The only reconciliation which is possible is the cosmonautisation of Australia's rangelands.

You will note that many of the cosmonaut values closely approximate "political correctness". This is indeed true. However I have re-badged "political correctness" as "planetary correctness".

It is also true that those rangeland dwellers who are interested in the big issues of sustainability, and reaching accommodation between immigrant and indigenous Australians, are rangeland cosmonauts rather than rangeland cowboys. In my view, therefore, the real division is not between the city and the bush, but between the rangeland cosmonauts and the rangeland cowboys.

Relationships in an emerging spaceship culture

When I talk about relationships I am not only talking about relationships between people; I am also talking about relationships between nations and tribes, between communities, between the city and the bush, and between people and their environment, including between people and other forms of life.

I believe the emerging Spaceship culture is driving issues such as vegetarianism and animal liberation, and is a contributor to our increased environmental awareness. It is through our emerging sense of global concern that we feel the need to interfere and stop the carnage in Bosnia. It leads us to feel hostility towards the SLORC government in Burma and the way they are ruthlessly repressing the democratic movement. This leads us on to supporting trade sanctions against such governments. In a totally different way it is effecting the way our workplaces relate to each other. The concept which currently dominates manufacturing and retailing called Just-In-Time is based on this emerging culture of interdependence. A strike in one plant can rapidly spread and cause the lay-off of workers in other plants. With interdependence comes increased vulnerability. It is on this core concept of interdependence that I feel we should dwell.

The old style of relationships from a Cowboy culture based on patriarchy, independent men and dependent women is being replaced by relationships which feature aspects of both independence and interdependence. Interdependence requires independence first, one cannot make the quantum leap from dependence to interdependence. So interdependent relationships only become possible when both members of the relationship are truly independent and can voluntarily negotiate an interdependent relationship. Surely good relationships are interdependent relationships. The emerging global spaceship culture which is so thoroughly based on interdependence is therefore moulding what will become the norm of all relationships.

As we discuss cowboys and cosmonauts we cannot ignore the issue of gender. The majority of women are dedicated cosmonauts, although of course there are quite a few strident cowgirls out on the range. However, a great deal of the split between the city and the bush is between the male cultures of the city and the bush. It is my impression that there is a considerable degree of concern and anxiety that in developed countries men and boys are struggling. Educators are noting that girls are now out performing boys in the education system. While the general malaise is recognised it is also far from clear what the core problems are, let alone the solutions. Indeed it seems that the only place men are still thriving is where patriarchal cultures are still strong and women are oppressed. It is no accident that some of the great bastions of the cowboy culture is in the American rangelands, such as Montana, the Dakotas and Texas, and in the rangelands of Northern and Western Australia.

What would a role model for masculinity in the spaceship look like?

If we want to change this situation we need to work on boys and men. I want to suggest to you a couple of ways the education system could play a leading role in creating a new role model for men and boys, appropriate for the spaceship society of the 21st century. These involved borrowing and adapting two ideas from other people. The first is Professor Peter Singer's concept of the ***circle of concern*** (1981). The second is the proposal of Robert Bly to reinvent ***initiation*** (1991).

Circles of concern

First of all Professor Peter Singer's concept of the ***circle of concern***.

We all like to be nurtured and cared for, and most of us like to nurture and care for others. Even the least caring of us cares for a few in their immediate circle. The mafia member who adores his family, yet is at war with the rest of humanity demonstrates this clearly. We all are capable of caring. It is just that some of us are more selective in our caring than others. Most of us who embrace the spaceship culture are followers of John Donne and are involved in mankind. We are concerned with sufferers of famines in Africa and we send money to try to help them, even though their problem does not directly affect us.

Singer (1981) says:

. . . . . *" think about our views now about the very crude and blatant form of racism of the slave traders who thought that it was acceptable to go over to Africa and capture Africans and use them as useful tools and objects to be sold to the plantation owners in the U. S. A. - despite the obvious enormous costs to the slaves themselves in terms of their suffering that they experienced, the breakup of their families and all the rest. We now think that as outrageous because we can see the suffering of the slaves, and we don't see the distinction between Africans and Europeans as in anyway justifying that. Now we have expanded our circle of concern to include all human beings. But we still have a boundary on that circle of concern, and that boundary is now the boundary of our species. Obviously that is not an absolute boundary- we're opposed to some forms of cruelty to some species. I believe that the relevant factors in considering the interests of living creatures are neither matters of race or matters of species, but things like the capacity to suffer. And therefore I think that we ought to expand the circle of concern to include all beings who are capable of suffering".*

I now want to read a piece from Education 2020 (1996). This is a 50 page vision for the future of Victorian State Education, which I prepared for and in consultation with, the Victorian Association of State Secondary School Principals.

"In the 1990s Professor Peter Singer (1991) described a concept which he called ***a spreading circle of concern.*** He noted that in past centuries, and even today, racism and intercultural intolerance was due to the fact that people cared for one kind of humanity such as a particular tribe or religion, but not another. Their ***circle of concern*** did not embrace all of humanity. Now the circle is extending further to go across the boundary around our species. During the 1980s and 1990s for example, species such as whales became protected as the ***circle of concern*** broadened to include whales while vegetarianism and animal rights became mainstream concerns. This concept of the ***circle of concern*** should become a major component of the curriculum. Individual students should be encouraged to map their own ***Circles of Concern*** and to work to increase the ambit of these ***Circles***. This is especially important in our decaying patriarchal society, where traditionally boys and men have been enticed into believing their was no room for a ***circle of concern*** in what has been traditionally a ***Cowboy culture***. However with the emerging ***Spaceship culture*** it is vital for all humans to embrace the concept of the ***circle of concern*** and incorporate elements into their own ***circle of concern***.

Reinventing initiation for the 21st century

Robert Bly (1991) in his book *Iron John* proposed that society needed to reinvent initiation. Bly argues that the initiation process in traditional and indigenous societies had been discarded by modern communities and cultures at enormous social cost. His thesis is that our society is full of boys running around in men's bodies, still doing what boys do but with men's strength and with the technology which adults can muster. He points out that for women puberty manifests itself with biological change. For men he says that without a cultural change which is powerful for men as the biological change is for women, boys will never progress to fulfilled manhood. The church in its declaration of war on "paganism" was a major player helping to eliminate initiation from western culture.

Bly (1991) says: "*Having abandoned initiation, our society has difficulty in leading boys towards manhood... The main reason is our ignorance of initiation and our dismissal of its value*".

He further quotes Michael Ventura, from his essay *The Age of Endarkment* (in contrast to the Age of Enlightenment) (1989). Ventura says: "*Tribal people everywhere greet the onset of puberty, especially in males, with elaborate and excruciating initiations, a practice which would not be as necessary unless their young were as extreme as ours.*

"They would assault their adolescents with, quite literally, holy terror rituals that had been kept secret from the young until that moment, rituals that focussed upon the young all the light and darkness of their tribes collective psyche; all its sense of mystery, all its questions and all the stories told both to harbour and answer these questions .....The crucial word is <u>focus.</u> The adults had something to teach: stories, skills, magic, dances, visions, rituals. In fact if all these things were not learned well and completely, the tribe could not survive.... tribal cultures satisfied the craving while supplying the need, and we call that <u>initiation</u>. This practice was so effective that usually by the age of 15 a tribal youth was able to take his or her place as a fully responsible adult".

Bly suggested that we bring back initiation as a mainstream concept. What we really need to do is take that empty wine skin called initiation and pour new wine into it; to reinvent initiation in a form relevant for the 21st century. We also need to place initiation into mainstream culture and into our formal education system.

It is interesting that most indigenous cultures choose the years of puberty to provide what was for them this formal education process. Many of our teachers and educators tell us that during the years of puberty young people can be impossible to teach and are unwilling to learn. On the threshold of adulthood they are keen to learn how to become effective adults, rather than what we want to teach them. Although we had thrown initiation out of our mainstream learning the need is still there. So much so that many street gangs often incorporate ritual and rites of passage into their gang cultures. It seems self evident that during the transition to adulthood a process of initiation should be a major focus of education. To a large extent is would be useful to separate genders and develop complementary and parallel programs for each gender. Traditional cultures have used the initiation process to reaffirm their culture to their young by having them learn their cultural myths and knowledge, and to prepare them to be effective and responsible adults and parents. Initiation also serves to contain and turn youthful aggressive and violent tendencies into useful and productive pathways. Initiation is the traditional pathway to warrior-hood: men who use their physical strength and strategic acumen for only noble and transcendental purposes, rather than for self empowerment and gratification.

Aboriginal People, like all indigenous people, are more fortunate than European Australians in this regard at least. For Aboriginal People the traditional initiation process accomplishes two things, it affirms and promotes their Aboriginality and it prepares them for life in adult world. As part of Reconciliation they could reinvent their own initiation process for the needs of the 21st century to affirm their Aboriginality, and to empower them to thrive in a multicultural Australia.

I therefore propose that we celebrate the education of boys by dividing the years of learning into three phases:

- The years from birth to puberty;
- The years of puberty which are now called the Initiation years, and
- Adult education thereafter.

An initiation program could introduce the young to the world of heroes and myths, spirituality and comparative religion, ethics and values, intercultural and traditional knowledge, and teach the young how to build effective relationships. For too long our education system has concentrated too much on the world of facts and the development of skills, leaving out too much which represents the richness of culture and human experience. Such an initiation process would prepare our youth for responsible and purposeful living in the ***Spaceship culture*** of the 21st century.

Initiation would seek to create more balanced people on the threshold of adulthood by introducing students to many diverse sources of knowledge and wisdom. It would introduce students to inspirational stories and to outstanding people who can serve as role models. The initiation program could develop self esteem and self respect. The program should include significant tests of skill and achievement, which extend students and help them to understand and improve their capacities, and to recognise and overcome their limitations.

This initiation should include promoting the mapping and extension of individual ***circles of caring*** and the development of a ***caring culture generally***.

The caring and compassionate culture

For too long our society and education system has focused on the negative "*-isms" of* our society such as sexism, racism and speciesism. All of these are products of a society which lacked sufficient caring, compassion and empathy. The *Education 2020* (Preferred Futures 1996) document focuses on the processes needed to create a caring society rather than eliminate an uncaring society. Therefore it is vital that we embark upon designing a journey towards a caring and compassionate culture rather than just deal with various aspects of an uncaring one such as sexism and racism. In creating that journey towards a caring and compassionate culture we need to develop a broad concept of caring itself. This could involve:

- caring for oneself including one's physical and mental health;
- caring for one's children, partners, friends and relations, and colleagues;
- caring for one's community;
- caring for others including those with different cultures;
- caring for other species; and
- caring for the Planet.

Therefore our concept of caring should incorporates self esteem, individual health, respect and caring for others, both within one's family and for other cultures and races (i. e. intercultural tolerance) and caring for other species and for the planetary environment, leading to the development of sustainable lifestyles and behaviour.

I think the emergence of the global spaceship culture is both unstoppable and highly desirable. I also think that the metaphor of the Cowboy and Spaceship cultures and the journey of Cowboy to Cosmonaut is useful for explaining the complexities of the world around us. Many people for example see globalisation and tribalisation as two processes which are in conflict, this is only the case if one visualised the impossible, the end of a pluralistic culturally diverse planet. I will leave with you this metaphor and invite you to interpret its usefulness and relevance to your own work and your own lives.

Planetism and the future of rangelands

The values of Planetism will lead to three broad trends in agriculture and pastoralism. Each of them has implications for the management of rangelands.

The economic purpose of rangelands is the production of food. That is why they are being commercially utilised at all. However rangelands are characterised by two special issues: ecological vulnerability and conflict between immigrant and indigenous cultures. This is characteristic of rangelands in virtually every continent.

The arrival of Planetism is changing the markets because the values of the customers of the food produced on rangelands are changing. They are increasingly demanding clean/ green food and are morel likely to become vegetarian and interested in animal liberation and welfare. This includes indigenous animals such as the kangaroo. They will also increasingly demand culturally customised food.

Food of course, after language, is one of the major forms of cultural celebration. National cuisines are important for cultural expression. Food is eaten and, therefore, contaminated food represents a major health hazard. Finally the

largest global food exporters are often countries where European settlers pushed out indigenous inhabitants. In countries such as Canada, the USA, Argentina, Australia, New Zealand and South Africa, the issue of indigenous rights is asserting itself and placing pressure on food producers because they wish to gain access to land which is currently being used for food production. There are three large missions which need to be undertaken if food production and consumption is to be planetised. The first of these missions is that food production must be ***clean/green***. In this context clean means produced free of contamination, while green means produced and processed through sustainable means. The second mission is that food must be even more ***culturally customised***. When a country such as Australia exports food to Korea, the food should be in a form or of a kind which celebrates the culture of the consumer, rather than the producer. The third mission is that food production, particularly in the large export countries needs to be ***indigenised*** as part of a process of reconciliation between the immigrant and indigenous cultures of these countries.

Creating clean/green food

The arrival of Planetism is already increasing the demand for clean/ green food. It is also likely to change dietary habits such as increase vegetarianism and increase demand for culturally customised food. In 1993 the transnational food company, Heinz, announced that its strategic intent was to become the global leader in the production of clean/green food, and Australia and New Zealand in particular would become what Heinz President Dr Tony O'Reilly called *Environmental Oases*. He visualised a journey of innovation, which will take approximately 10 years.

At a conference in Wellington in 1995 on the implications of the completion of the GATT Uruguay Round on the future of New Zealand agriculture, the Chief Executive of Heinz Wattie Australasia, David Irving, stated that it was the strategic intent of Heinz Wattie to help to create in New Zealand an environmental oasis producing clean food to world market requirements. The first goal would be that before the end of the decade at least 50% of all the frozen food exported from New Zealand by the company would be grown organically. This corporate goal reaffirmed a national strategic goal that New Zealand should become a world leader in the production of clean food; the preferred future for both a nation (New Zealand), and a major company in that nation (Heinz Wattie).

David Irving (1994) saw the journey towards clean food was not merely a journey of altruism but also of enlightened self-interest. Heinz Wattie would seek to harvest a price premium for its products from this strategic commitment to creating a clean food, which would be regarded as a bonus rather than an expectation. More importantly, by announcing such strategic intent Heinz was inviting its customers to buy its products to affirm this journey: in other words Heinz was marketing, not what it is, but what it wants to become.

Australia and New Zealand currently produce some of the cleanest food in the world because of their extensive land areas and their low input agriculture. This food could also better be described as 'cleanish', but not clean. If these countries rested on their laurels, other countries will soon overcome this natural advantage caused by luck and history. Traditionally both cultures favour a problem-centred approach to remove and reduce some of the causes and symptoms of 'dirty' food production rather than creating a mission-directed strategy and pathway to a future of clean food. If, on the other hand, they set out to deliberately create a really clean food industry, they would turn their present advantage into truly deserved World leadership. To do this however they need both a vision and an action plan to create such a clean/green future.

Australian food produce is currently being promoted as being cleaner than that of its competitors. Australia is reaping an advantage it has gained by good fortune rather than by good management. It is dishonest to say Australian food is clean when it is not. It is cleanish, not clean. However, it is cleaner than that produced by others. A problem occurs when a contamination scandal breaks out, as it does from time to time. At such a time food containing a contaminant such as a pesticide results in the cessation of trade. Australia then, reaps its comeuppance for its misrepresentation of its self as a clean food producer. It attempts to solve the immediate problem, by isolating food produced from the same source and by sending in a few PR people to convince concerned customers that Australia's food is really 'clean', and that what occurred was just an aberration. The more honest route would produce better results both morally and economically. If, for example Australia stated that it had in place a long term strategy, a strategic intent to produce true clean food in Australia over a period of, say, a decade, and that when true clean food is finally produced, the nation is determined that it will be produced first in Australia, this strategic intent would be accepted by all its international customers. This is the route that Heinz have taken. However a problem centred strategy to make food less "unclean" will never achieve the outstanding results of a mission directed strategy to create "clean" food.

Green food refers to food sustainably: ecologically, economically, socially and culturally. In an audience such as this it is not necessary to discuss the issue of sustainable agriculture in depth. Suffice to say that the journey towards green food is both a big challenge and a big opportunity, and this is equally true in rangelands as well as in more intensive agricultural situations.

If we cannot manage the land effectively to produce food indefinitely, we are not producing food sustainably. This means that food production must honour the design rules for sustainability as set out in the Hanover Principals, such as living within solar income, waste = food and Just Enough in Place and Time (JEPT). Sustainable agriculture will largely

involve the use of mineral and organic fertilisers (as distinct from chemical fertilisers), and the mobilisation of nutrients from them by micro-organisms and soil macro-fauna. It will use plants to fix nitrogen and will involve very sophisticated methods of pest management, and it will nurture biodiversity. It will involve the full recovery, renewal and reuse of organic matter and water as part of production, and as part of a journey to abolish the concept of waste. It will probably involve hydrogen driven agriculture.

Here is a scenario for the Clean Green Food Industry.

The clean/green food industry produces and processes food from both dry land and irrigation agriculture. ***Clean*** means that food is uncontaminated by toxic substances such as pesticides or radioactive materials, while ***green*** means that it is produced in ecologically sustainable ways. The industry utilises mineral fertilisers and natural soil nutrient cycles (biodynamic or organic production modes), and reuses and recycles waste products such as garbage and sewerage. It efficiently uses, reuses and restores water. It also emphasises the use of sustainable methods in the production, processing, transport, storage and consumption of food.

Culturally customising food for a Planetist world

Planetism involves both economic and trade interdependence and the celebration of cultural diversity. When an Australian food product is exported to Korea, Australian culture is exported along with it. Here is a scenario.

Scenario the year is 2010

An Australian delegation is touring Korea. It walks into a supermarket in Seoul, which is full of shoppers buying their food. There is a significant section of the market displaying western food which is being frequented by many Seoul shoppers. Much of this food originates in Australia. However it is to the traditional Korean food section that the Delegation heads. They start picking up many examples of the thousands of different kind of food products. Ten years ago most of the Delegation would have regarded this food as very exotic. Forty percent of these food packages are marked ***Made in Australia. End of scenario.*** This scenario draws on the ***Planetist*** value based on the celebration of diversity. It emphasises the fact that tribalisation is a much a facet of the change juggernaut as is economic and trade globalisation. Food producers in the "new countries" such as Australia and Canada have traditionally exported their foods, the food of the immigrant culture, not the indigenous cultures. It is easiest to send our culture as food to others. However this will only ever be a minority opportunity. Right now in a world being shaped by McDonalds and Coke, one might be forgiven if one thought that the world was being overrun by Planetary Hollywoodisation. I believe that although Planetary Hollywoodisation is currently strong, it will weaken as national cultures and tribalism reassert themselves. The present reflects the current dominance of global media and communications by Hollywood and English language broadcasters (Newslimited, CNN etc.). As more non English speakers send satellites in the sky and the world is linked by optical fibre, I believe that national cultures will reassert themselves. The celebration will be of cultural diversity in an interdependent global community. Just as the French are resisting Americanisation now, others will follow. The big opportunities will go to those countries and companies who recognise these difference by tailoring their exports to the celebration of local cultures

Indigenising agriculture and pastoralism

This discussion relating to indigenisation will draw heavily upon an Australian case history. However the general issues are much broader than Australia, one can find parallels in countries as diverse as Argentina, Canada, USA and biodiverse rich developing countries such as the Malagasy Republic (Madagascar), Indonesia, Malaysia and Papua New Guinnea.

A few people are aware of what is involved in Indigenisation, one of these is Mike Stephens, who is well known on the Australian national broadcaster on ABC Radio's Country Hour under the name 'Michelago Mick'. In the following ballad he challenged his listeners, Australia's food and fibre producers, with a late 20th century version of a 19th century "bush ballad":

The emu and the Kangaroo stand facing eye to eye,
The shield between them, above a star, points to the sky.
they're on our nations Coat of Arms standing tall and proud,
If you shoot one you'll anger all the liberation crowd.

It doesn't matter what they do in eating all your feed,
It doesn't matter if they drink the water your stock need,
It wouldn't do to farm them and make them pay their way,
It wouldn't do to market them, Landowners have no say.

Our land Abounds in natures gifts of beauty, rich and rare,
Then why not farm them, then we might Advance Australia Fair,
Our waratah is sold world wide - its called Kiwi Rose,
You know that Barramundi's farmed by Thailand, I suppose.

Our Euclie oil, well Portugal is number one today,
Australia's Macadamia Nut comes most from USA,
Brazil, then China, lead the World in Eucalyptus Wood,
We couldn't farm our mudcrabs till Thailand showed we could,

Israel and Holland showed the way the Boronia could grow,
They also put our lovely kangaroo Paw right on show,
While we all sit around and moan on European like farms,
We couldn't farm the kangaroo - he's on our coat of arms.

For the first hundred and fifty years after European settlement immigrant Australians built the agricultural and pastoral industries by waging war, not only on the indigenous inhabitants but also on the Australian flora and fauna. They wished to Europeanise the land. Initially, the agriculture which the settlers brought was European, but over time much of it has been Australianised as unsuitable European practices were replaced by practices which were more suitable for Australian conditions. By Australianisation in this case, I mean, growing European food and fibre in ways which were more compatible with Australian ecosystems. However, the Australianisation of agriculture is only partly complete, and with the appearance of the bush tucker movement (exemplified by the appearance on national television programs of the 'Bush Tucker Man'), Aboriginalisation is just beginning. Aboriginalisation is an Australian specific form of Indigenisation. Indigenisation of agriculture is the recognition that the natural biodiversity of the Australian continent, which provided sustenance to Australia's indigenous peoples, can also become the basis of a modern food and fibre industry in the 21st century.

Europeans came to a country where they thought that the indigenous people practised no agriculture. They were wrong, they did not look hard enough. At the outset the Australian environment was regarded as totally hostile. It was hostile to the European agriculture which was being introduced, and the endemic vegetation and native animals were regarded as irrelevant and of no conceivable use at best. The newly-arriving Europeans settlers had no existing models for practising agriculture and pastoralism in Australian ecosystems which they could study. The Aboriginal landowners were regarded as simple hunters and gatherers who had done little to change the landscape. In fact they changed the landscape of Australia greatly. They were responsible for the dominance of fire-resistant *Eucalyptus*, as their use of fire reduced the area of pre-existing *Casuarina* forests.

The indigenous people were also effective horticulturists. In recent years work by ethnobotanists, such as Dr Beth Gott of Monash University, has done a great deal to set the record straight. The Aboriginal people had a staple diet of meat and plants, the majority of the latter being tubers and corms from beneath the ground. A prominent food source in south-eastern Australia was Murnong (*Microceris lanceolata*). Dr Gott has shown that women used digging sticks to cultivate the soil and remove Murnong sufficient for their needs, leaving the remaining plants in a thinned state so that they would grow better and larger, and also leaving the soil aerated and more fertile. The previous widespread distribution of this plant was devastated by the introduction of European pastoralism and agriculture.

The Aboriginal people also used fire to effectively manage the productivity of the land and to favour species which were good food plants. It never seemed to occur to the new immigrants that food crops such as Murrnong might have some potential as a crop for global export. They adopted the Modernist view that Aboriginals only ate foods such as Murrnong because they did not have access to superior European food. Immigrant presumably took the view that their food would die with them as Aboriginal themselves became extinct through the policy of assimilation, another product of Modernism. However most, though not all of the European settlers, were too hell-bent on Europeanising the landscape and introducing European agriculture to notice these subtle horticultural practices of the indigenous people. The European settlers also introduced exotic species such as rabbits, foxes, European Carp and cats, with disastrous consequences for native flora and fauna.

Many of those early attitudes to endemic flora and fauna are still evident today, with the crocodile, the macadamia, the quandong, a few native flowers such as Geraldton wax, *Banksia coccinea*, waratahs and Boronias, and very recently, the emu, being the only native species which have been used for productive purposes. As Mike Stephens has pointed out, most of these were appreciated in other countries first before they were valued in Australia. Now macadamias are grown in Hawaii, and Australian native wildflowers in Israel and South Africa, where they have become major exports. In more recent times the emu was ignored for egg, meat, oil and feather production, while the ostrich was imported for the same purposes. Some flora and fauna are slowly gaining recognition, although banksias, which are members of the family Proteaceae, are not considered as commercially valuable in Australia as the South African proteas, which are in the same family.

Likewise the emu, which is much coveted in the USA, is playing second fiddle in Australia to the imported ostrich. The Americans are building a new industry on Australian emus, just as they did with the Macadamia nut: Macadamias are now a major industry in Australia, thanks to the Americans, who 'discovered' them and told European Australians about them. Of course indigenous Australians already knew about them. In the late 1990s "bush tucker" is now becoming popular and the first chain of restaurants based on consumption of indigenous flora and fauna has been established. However, even this is causing divisions, as Mike Stephens says, many Australians don't like the idea of eating something which, like the emu or kangaroo, appears on the national coat of arms.

For 100 years Australia kept bans on the export of merino sheep, which was regarded as a price-less national and commercial asset whilst freely giving away the seeds of the magnificent *Eucalyptus*, *Casuarina* and *Acacia* to anybody who asked for them. Now these species account for forty per cent of the planet's forest plantations, and this industry, based on Australian genetic material, generates no income for Australia. Australians - both indigenous and immigrant - have for centuries enjoyed eating Australia's freshwater crustaceans such as the West Australian Marron and the Eastern Yabbie, but until very recently it never occurred to anyone to develop a commercial industry based on them. Australia is only dabbling in the potential of Australian major freshwater fish such as Murray Cod for export, and have only very poorly developed plans to develop industries on them.

Australians traditionally only eat one particular fungus - the common mushroom *Agaricus campestris* - ignoring the incredibly rich and genetically diverse fungi of Australia as possible food at home and for export. Mycologists (fungal experts) have known for years the potential of Australian fungi, but they have not found many people who were interested. Now Australians are importing many different fungi from Asia, and it is a safe bet that some of recent Asian immigrants will soon recognise the potential of Australian fungi and seek to develop significant enterprises to cultivate and market them, both at home and abroad. Meanwhile the preference for European fungi persists with a new truffle industry being established in Tasmania.

Australia now spends a fortune to protect its magnificent parrots against smugglers, while overseas they are bred for markets that value them. Criminals make as much from the illegal export of wildlife as they do from the illegal importation of drugs, since the smuggled birds sell for tens of thousands of dollars each in foreign markets. A scheme which had been proposed to establish Australian-owned breeding colonies of parrots in Europe and North America in order to protect the wild populations in Australia from decimation by smugglers, and to return the profits to conservation in Australia, was defeated by conservationists and by politicians who were not willing to take on the militant conservationists. Such bird-breeding is regarded as immoral by many of them, irrespective of whether the species in question is endangered or in excessive numbers.

For almost two hundred years Australians have resisted consuming native wildlife such as kangaroos, and shot them as pests. No one was interested in the diets of Aboriginal people and nobody sought to identify aspects of Australian flora and fauna which might have commercial value. Cattle and sheep were introduced into fragile, semi-arid ecosystems which were subsequently degraded by both, but particularly by sheep. These ecosystems could have been sustainably utilised by a kangaroo farming industry.

Australia has also been very narrow in its commercial use of exotic species. The dominance of European thinking can be demonstrated by the fact that some crops such as date palm, which would do spectacularly well in Australia, have not been seriously considered. Until recently the only tropical fruits which were widely produced in Australia were those which have been long available in Europe, such as bananas and pineapples. All of this, happily, is beginning to change.

One of the primary reasons for the development of the International Convention on Biodiversity, which Australia signed at the 1993 Rio Earth Summit, along with more than a hundred and fifty other nations, was ensuring that species which would be useful to future generations are adequately protected. The only acceptable ethical position relating to biodiversity is the view that all species on the planet should be protected equally, whether or not they are useful to humans. It is also a fact that many species which are not seen as useful to humans have the potential to be so. Australian agricultural wealth has been built on exotic species. The time has now come to build beside this a second and complementary agricultural stream based on the utilisation of native Australian species. Thus far very little thought has been given to the merits of such a possibility; the possibility that our endemic species of plants and animals might be commercially useful, for example, as new sources of food and fibre or as sources of new chemicals. If Australia wants to build global uniqueness it should celebrate its biological diversity which can be seen as a form of biological tribalisation, and utilise this wonderful genetic storehouse and begin to build new agricultural opportunities based on it. This is equally true with many other nations which have outstanding biodiversity.

The following extract from a 1975 publication of the US National Academy of Sciences entitled *Unexploited Tropical Plants with Promising Economic Value* will illustrate the potential of Australian flora, and the indifference of most Australians to it.

> •*Echinochloa turnerana* (called Channel millet or Channel sorghum in the Queensland Channel country where it grows): *This wild Australian grass, which has never been studied, yields nutritious grain with just one deep watering. It has potential for dryland farming in arid regions with sporadic rainfall.*
>
> •*Cassia sturtii*: *Considered unimportant in its native Australia, this bush is providing nutritious forage year round in an experimental project in Israel. Its potential needs to be determined in other arid regions of temperate or subtropical climate.*

There is now minority interest in exporting some Australian genera to the world, but there is nobody who is articulating the view that there might be anything but a marginal export industry in Australian flora and fauna, with the most promising being Australian cut flowers. A successful honey industry has also been built on native flora (with European bees) and there is no doubt that magnificent Australian honey such as Leatherwood, Banksia, Ironbark and Yellow Box could be much more successful in export markets with better strategic thinking and promotion.

When ideas were formed about what might be potentially useful as food and fibre, Europeans had little access to Australia's genetic resources. The first to recognise them were the Americans, who exported Australian *Eucalyptus* and *Acacias spp.* to California in the 1850s. European Australians thought that the Californian species, *Pinus radiata* and *Cupressus macrocarpa* were equally wonderful, and set out to plant them widely, while continuing to cut down native flora. It is fascinating to consider that these species almost became extinct in their own home and their survival was helped by the fact that they were widely planted in Australia and New Zealand. Meanwhile, most of Australia's new settlers continued to create European landscapes and gardens, and they cleared the bush first in order to do it.

Now Australians love the bush, indeed the word is used with affection rather than hostility, and the bush has become part of the Australian soul. It is interesting, however, that many people still use only one word - 'bush' - to describe a range of widely different ecosystems. When we hated the bush this was understandable. There are many other more specific words such as brigalow, mulga and wallum which are slowly being used more widely as love for Australian landscapes and flora and fauna continues to grow. Soon Australians will use many more words to describe the more subtle aspects of the 'bush'. Paradoxically, Australian flora and fauna will fully enter the Australian soul when Australians develop a more utilitarian view of Australia's biological resources and use them for many more things, including generating economic wealth. Many, if not most immigrant Australians, now look at land as indigenous people do and seek to understand the spiritual values of the land, but they have not taken the next step of taking a simultaneous utilitarian view of the land and used the native flora and fauna of the land to provide sustenance.

Australians haven't sought, for example, to emulate, the South Americans who are producing wealth from their llamas. Nobody really supports the view that kangaroo exports could or should challenge beef exports; it might be okay as a sideline, but not as a mainstream industry! What is certain is that somebody else will establish a kangaroo meat export industry, just as they have done with emus and macadamias. Meanwhile, Australians are more excited about the possibilities of a venison export industry than a kangaroo meat export industry.

There are those Australians who believe that to build a utilitarian industry based on national symbols such as kangaroos and emus is unthinkable, and even immoral. The indigenous people of Australia have had no trouble in holding reverential views about these species, and even elevating them to deity status, while at the same time using them to fulfill utilitarian needs. Some conservationists believe it is permissible to cull kangaroos to protect the viability of ecosystems, but it is not acceptable to use these culled animals in a useful way. Others will say that it is acceptable to fulfill a need by utilising a species, but it is immoral to use these species for commercial sale, to generate profits from them. The ancestors of European Australians, the indigenous peoples of Europe, certainly had similar views about cows, sheep and horses in bygone centuries. Currently people in Papua New Guinea have reverential views about pigs while using them as a form of commercial exchange and for human consumption. Some people would say that the "lets not eat the kangaroo" movement is a cosmonaut value. It is in one sense, but it isn't in another. If the resistance of the cities to kangaroo farming is to be overcome the reasons have to be explained in terms of cosmonaut values, rather than cowboy ones.

In the early 1980s when I was the Chief Executive Officer of the Environment Department in South Australia, I tried to promote the human consumption of kangaroo meat so that I could subsequently recommend to the Government that it remove cattle and sheep from northern parts of the State to protect fragile ecosystems. I was defeated by an unholy alliance of pastoralists and conservationists who had spent the previous ten years at war with each other. Since then, the slowly increasing demand for kangaroo meat for human consumption, including for export, is being led by consumers and restaurateurs, not by pastoralists.

Australia's native animal species and many beautiful parrots are not farmed at all. In other parts of the world. People realise that some wildlife is best preserved when it is used commercially. In Papua New Guinea cassowaries and even butterflies are farmed. In the case of butterflies this guarantees bountiful populations of many magnificent species which would otherwise be decimated by smugglers. Some of the stock is exported, thereby killing the smuggling trade and at the same time returning money to village people. Many butterflies are also released into the wild, guaranteeing the survival of the species. The same principles are used in wildlife management in Zimbabwe. In 1997 Australia rather stupidly voted with the Europeans against African nations who wished to open up the ivory trade, based on the sustainable farming of elephants for the ivory, approaches to wildlife management, and which only permits the killing of elephants as a population control measure. In doing this they reflected a traditional conservation position but ignored a utilitarian conservationists position, which would almost certainly ensure greater elephant prosperity.

Australians now recognise that they must control rabbits, foxes, goats and donkeys because they wreck the Australian environment - the land and in some cases the fauna on it as well. However these exotic species have been classified as vermin. There is however a special blindness which applies to commercially important exotic species such as cattle and sheep which can cause similar damage to Australia's rangelands. Furthermore some native Australian species such as wombat have been given vermin status because they are incompatible with Europeanised agriculture and pastoralism. A mission to establish a kangaroo industry with investment levels equal to the current wool and cattle industries would go a long way towards achieving this. Further, the development of new forms of cereals such as *Echinochloa turnerana* , or other similar crops, would give Australian agriculture uniqueness, while at the same time realising the better management of Australian ecosystems. There are huge opportunities available to Australians who are willing to indigenise Australian agriculture and develop commercial operations based on Australian biodiversity.

Countries such as Australia which have a rich biodiversity, need to implement a systematic research program and a number of industry development strategies to document the natural biological endowment and implement a program for the conservation of, and the development of, industries and enterprises to creatively utilise those parts of this biological endowment which have economic potential. There is also an important relationship between indigenisation and reconciliation. In the Post Modernist era countries such as Australia, Canada, Guatemala and New Zealand are all attempting to develop processes of reconciliation between their immigrant and indigenous peoples. This is being driven by the emerging global public opinion of Planetism which is fostering respect for indigenous people by immigrant peoples, and long term reconciliation between these people. Any country which seeks to slow down a reconciliation process as is being attempted by the Howard Government in Australia in late 1997 will quickly find itself receiving global approbium.

Reconciliation will be advanced when all immigrant Australians look at the land and see what indigenous people see, and also utilise the land and its flora and fauna as indigenous people do. Australian agricultural prosperity will be assisted by aboriginalising agriculture as well as Australianising it. In this rich biodiversity there will be many new 21st century products and services which will increase Australian economic prosperity.

Most thoughtful politicians who are not overtly representing the particular vested interests of land holders and miners, fully recognised that a return to Terra Nullius was not an option. Apart from anything else, such an attempt to turn back the clock would make Australia, and any other country which behaves similarly, a global pariah amongst the majority of the emerging global spaceship culture. The test for Australians, Mexicans and Peruvians alike is to make accommodation with their indigenous peoples in a way which enables them to move forward into the 21st century rather than back into the 19th.

Any vision of a reconciled Australia should not only involve issues associated with land, colonisation and indigeny, and the creation of health, social justice and equal opportunity to indigenous people, but should also look at what the agricultural and pastoral industries produce on that land - and the role of Australian biodiversity. The products and services which come from the Australian land for export should reflect these changed circumstances and not continue to be only the products which were valued by immigrants who could see opportunities in their home markets for such exports.

If one wants to understand the future of agriculture in Australia it is important to understand some of the history of the last two hundred years of European settlement, and the consequences of this history on current attitudes and practices. This history has helped mould the current mindsets of Australia's primary producers, and it has contributed to the mythology of the successful Europeanisation of Australia. Australians have done a spectacular job of Australianising agriculture through solving many of the problems faced by transferring a European agriculture to Australian ecosystems; they are now world experts in dryland agriculture and are exporting their expertise to the world - though this is still a relative sideline rather than a mainstream industry. Australians have also become leaders in a form of agriculture with no significant European heritage: irrigation agriculture. Australian scientists have developed effective low input agriculture by utilising legumes such as subterranean clover and lupins for the fixation of atmospheric nitrogen for plant nutrition, rather than depending on nitrogenous fertilisers as has been the case in other parts of the world.

Australians have believed that there has been great innovation and adaptability in Australian agriculture and pastoralism. But this innovation has been entirely problem-centred in that it involves redesigning Australian agricultural production so that it could produce the products the old world wanted. There has been a failure to create a vision for agriculture to design an agricultural future, which reflects the uniqueness of Australia and of its indigenous peoples and flora and fauna.

The current leadership of Australian agriculture and pastoralism, such as the National Farmers Federation, is not leading the industry anywhere, and the same is true of the National Party, which is supposed to be the political party of the agricultural sector. The National Farmers Federation, even though for a period during the Labor government when it showed an encouraging adaptability and a degree of foresight, has now returned to its more traditional views. Just as it wants to return to the impossible dream of Terra Nullius, it does not seem to have any thoughts about a future for agriculture which is significantly different from the present. It is hoped that the next generation of agricultural and pastoral leaders will be more visionary.

Conclusion

If we are to improve effective communication between the city and the bush over the management of rangelands, it is important to understand the mindsets of both the city and the bush. While there are cowboys in the city there is a much higher proportion of them in the bush. Much of the conflict over the rangelands is due to the fact that the city looks at the rangelands from a cosmonaut perspective, while the bush looks at the same rangelands from a largely cowboy perspective. Many people in the rangelands see themselves as making a stand against rampant cosmonautisation. Many of the cowboys of the rangelands are still locked into the old modernist mindset, based on the superiority of western values, culture, science and technology and an endlessly expanding frontier. The city has moved on into Post Modernism and is busy synthesising values from a wide range of cultures other than the western dominant culture. The outcome of this synthesis will be Planetist. The people of the cities have become interested in the culture of the Australian aborigine, whereas those in the bush, while mindful of this culture tend to still look at it with a paternalist and Modernist mindset. The global adoption of the spaceship culture and of its paradigm, Planetism, is both inevitable and desirable. We need to adopt processes to reconcile the city and the bush by easing the bush into the world of the cosmonaut, while reassuring the bush that these changes are necessary and are not necessarily threatening. Those in the bush who are taking Custer's Last Stand against perceived threats such as Wik need to be reassured that the future is not so bleak. The dominant mindsets of the bush leadership is engendering a bleak cowboy "battlers" outlook. While these mind-sets persist, reconciliation of city and bush will be difficult. It is my view that most city people have high sensitivity about the ecological fragility of rangelands. Not the details of course. However their hearts are in the right place. They are being put off by the belligerence of the bush towards the city, a cowboy belligerence in a world which is moving on onto the spaceship

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INDUSTRY COMMISSION INQUIRY ON ECOLOGICALLY SUSTAINABLE LAND MANAGEMENT (ESLM)

Jeffrey Rae
Presiding Commissioner, ESLM Inquiry, Industry Commission, Melbourne, Vic.

Introduction

On 17 January 1997, the Commonwealth government asked the Industry Commission to inquire into the ecologically sustainable management of agricultural and pastoral land in Australia. The terms of reference for the inquiry define 'land' broadly. Its definition includes all natural resources associated with or affected by agricultural production:

- land used or suitable for agricultural or pastoral purposes;
- publicly or privately owned land;
- land currently or potentially available for economic use;
- associated vegetation; and
- ground and surface water, including rivers, riversides and wetlands.

The terms of reference ask the Commission to take account of the National Strategy for Ecologically Sustainable Development.

The Commission released a draft report (Anon 1997a) for public comment on 15 September 1997. In preparing its draft report the Commission has had the benefit of public input through more than 200 submissions from a wide range of participants, including Commonwealth and State governments, industry and community organisations, and research institutions. Roundtables were also held with various groups of participants in all the capital cities and a number of provincial centres in May and June 1997. A public hearing was held in Melbourne in June 1997. The Commission has invited public submissions on the draft report. Public hearings on the draft were held in all capital cities, together with Albury, Alice Springs and Townsville if there is the interest, from 31 October 1997. The Commission submitted its final report to the Commonwealth Government at the end of January 1998.

The ***Industry Commission Act*** requires the Commission to provide advice on action, which can improve the wellbeing of the Australian community, rather than the welfare of any particular industry or activity under reference, or any particular section of the community. Community wellbeing includes both the measurable material and economic aspects, and (the more difficult to measure) aspects relating to quality of life. Under the ***Industry Commission Act*** the Commission is also required to report on the social and environmental consequences of any recommendations it makes. This paper provides an outline of the key findings and recommendations of the Commission's draft report.

Agriculture and the environment

Both agriculture and the environment are crucial to the wellbeing of the Australian community. Agriculture provides us with most of the food and fibre we consume and around a quarter of our total exports—thereby contributing to our ability to import the things we do not produce for ourselves. It is by far the predominant use of the landscape, covering some 60% of the continent, and is the major user of the water diverted for economic use, some 70% of the total. Most of Australia's rangelands is used for pastoral production.

In the case of the rangelands they contain a range of ecosystems, and many habitats for rare and endangered species. Because of the low level of nutrients in the soil, and low and variable rainfall, the land is marginal for agricultural purposes and the environment is easily disturbed. At present both agriculture and the environment are showing signs of stress.

Many farmers are struggling with poor seasonal conditions due to El Nino and relatively low commodity prices, with little sign of an improvement in sight. As a consequence the Australian Bureau of Agricultural and Resource Economics (ABARE 1997) expects the gross value of agricultural production to drop by 1% in 1997–98. While such variability is endemic to agriculture, the present combination is proving to be financially and personally painful for many farm families.

The stresses on the environment may not be immediately evident but they are profound; as has been well shown by the State of the Environment Reports (Anon 1997b). The clearing of most of our land and the diversion of much of our water have radically transformed the Australian landscape. Impacts such as these have not been due solely to agricultural development, urban expansion and other economic activities have also contributed. Land degradation in the rangelands is widespread (see Table 1). Almost all of the rangelands show signs of over-grazing and whole habitats have been lost. Up to a third of the total area shows the acute symptoms of rangeland degradation of bare ground, salt scalds, or invasions of a single species of plant (Anon 1997c).

Table 1. Condition of pastoral rangelands in northern Australia

State	*Good condition*		*Degraded but recoverable*		*Degraded and economically unrecoverable*	
	millions of hectares	*per cent*	*millions of hectares*	*per cent*	*millions of hectares*	*per cent*
Queensland	67.8	42	66.9	41	26.8	17
Western Australia	41.6	75	11.6	21	2.2	4
Northern Territory	35.8	89	3.8	9	1.0	2
Australia	145.2	56	82.3	32	30.0	12

Source: Industry Commission (1997a).

Although the economic benefits of agricultural development are considerable they have not been costless. Many of the environmental impacts are unwelcome and some were not anticipated: land degradation (such as soil erosion, salinity and acidity); degradation of creeks, rivers and aquifers; the extinction of species and the loss and fragmentation of vital habitat, such as forests and wetlands. Nearly half of the mammals that originally occupied the rangelands are no longer found there. Some of these environmental impacts have adversely affected economic productivity. Dryland salinity, acidity and structural decline in soil could be costing up to $750 million a year in lost agricultural production. Pests and weeds cost the sector around $7.4 billion in lost production and control measures (Hill 1997).

Ecological sustainability

Internationally, public concern with the impact of economic development on the environment has led to acceptance of the notion of 'sustainable development' popularised by the Brundtland Report in *Our Common Future* (Anon 1987). In Australia we call it 'ecologically sustainable development'.

Ecological sustainability is essentially about ensuring that each generation does not compromise the potential wellbeing of the next. A more elegant description of what ecological sustainability means was contained in a speech of UK Prime Minister, Margaret Thatcher in 1988 that was quoted by Frances Cairncross (1991) in *Costing the Earth.*

'No generation has a freehold on the earth. All we have is a life tenancy — with a full repairing lease.'

In essence, the wellbeing of each generation is largely determined by the stock of capital — broadly defined — that it inherits from the previous one. While the bequest of man-made capital and knowledge should continue to increase from one generation to the next, individuals acting on their own cannot determine the amount of natural capital that should pass to the next generation. Natural capital consists of those renewable resources on which life depends; the ozone layer to protect people from sun cancer, clean air to breathe, potable water, forests and wildlife to enjoy, and the ecosystems that support them. Natural capital performs many useful functions but has few, if any, substitutes. For example forests provide carbon sinks, oxygen for the atmosphere, watershed protection, habitat for a wide range of flora and fauna, a source of potentially valuable drugs and recreation areas. To take but one example, the value of plant–based drugs produced in OECD countries has been estimated at about $43 billion (Cairncross 1991). There is considerable uncertainty about the impact of losing such capital; there is no market for all of its services, and none are even possible for most.

In such circumstances, only government can ensure a just solution to what natural capital should be left for future generations. While the principle of ecological sustainability is sound, its implementation is often fraught with practical difficulties and difficult choices. The first priority should be to address the on-going causes of environmental degradation, particularly those that are capable of being solved with no regrets and little controversy. At the end of the day the limiting factor will be the willingness of the community to forgo what can often be short-term material advantage, in return for longer-term environmental benefits for themselves and future generations.

The case for change

Much has already been done to advance the ecologically sustainable management of natural resources in agriculture. The task has been and remains a challenging one. It involves all tiers of government, with cooperation through the Council of Australian Governments (COAG). Nevertheless, to date the incorporation of ecological sustainability by Australian governments into practical policy has been *ad hoc*, incomplete and tentative. The central problem is that Australian governments have yet to put in place a comprehensive, integrated and far-sighted way of promoting the ecologically sustainable management of the natural resources in agriculture. On top of this, there are flaws in the design and execution of some of what has been done by Australian governments. The first response by government to an environmental problem has usually been to ***regulate the resource owners, managers or users.***

Unfortunately, much of this regulation has been *ad hoc,* and too frequently the only response. The number of rules is large and growing. We counted some 280 statutes in the Commonwealth, New South Wales and Victorian jurisdictions that are concerned with natural resource use. The design of many rules is flawed, they prescribe the means to be used rather than the objectives to be achieved. Generally, the design of the rules has had only limited input from those that

have to work with them. More fundamentally the design of much regulation fails to recognise the severe practical limits on the ability of prohibition to achieve progressively better environmental outcomes. We need a more effectively self-regulating system. The primary responsibility for doing something about environmental degradation has to lie with those who create the risks and those who manage them.

A contemporary example, the removal of trees and other deep-rooted native vegetation, illustrates the issues quite well. Land clearing can have multiple and inter–related impacts on the environment. It can adversely affect terrestrial biological diversity and catchment hydrology, with the latter leading to water logging and dryland salinity with the salt subsequently being leached into creek and rivers, reducing water quality. Clearing can increase rainfall run–off, thereby eroding soils and carrying nutrients into rivers and down to the coast. These impacts can lead to a loss of biological diversity in our river, coastal and marine environments. The extent of these impacts vary enormously over time and place. Such complex and multi–faceted problems do not admit simple, universal solutions. A ban on land clearing would be a case in point. It would not differentiate between high risk clearing and that with little risk associated with it. In some areas a ban could be a severe constraint on agricultural operations regardless of the extent of the environmental risk, for example, where clearing merely harvests the regrowth of vegetation for stock feed especially during drought.

The ***markets for key natural resources***—surface and ground water, farm forestry, native flora and fauna—are either non-existent or function poorly. The major flaw is a lack of well-defined, tradeable rights to use these resources. Another is the practice of subsidising or putting in place unnecessary impediments to its use. Consequently landholders have tended to over-use some resources (surface and ground water) and under-value others (forestry, native flora and fauna). Neither outcome promotes resource conservation, protects the environment or makes economic sense.

Most jurisdictions have made little use of positive incentives to promote ***nature conservation on private land,*** either directly or indirectly through charities that encourage and manage conservation on private land. South Australia is the notable exception on the first count, it has around 600 000 hectares covered by conservation agreements with 900 private landholders. Although governments encourage other forms of altruism through their tax systems, not as much encouragement is given to environmental altruism. Land donated to a conservation charity is only tax deductible if donated within twelve months of its purchase. There are income tax deductions for expenditure to preserve heritage buildings but not to protect the natural heritage. As a consequences there are relatively few charitable trusts concerned with nature conservation in Australia—an exception is the Trust for Nature in Victoria established by the Victorian Government.

The lack of positive incentives is despite the fact that off-reserve conservation on agricultural land is a high priority for all governments and there are severe practical limits to what can be achieved with regulatory prohibitions. In addition, the use which is made of positive incentives is not well coordinated with other government programs for natural resource and environment management. The objectives and achievements of many ***natural resource and environmental programs*** are obscure. The Australian National Audit Office (Anon 1997d) found that the objectives of the Commonwealth's programs in these areas were too broad and difficult to measure. Ill-defined objectives do not promote effective accountability. Weaknesses in policy design are exacerbated by ***poor implementation of policy***. The implementation of certain major reforms remains incomplete some years after they were initiated; the 1992 National Forest Policy Statement, the 1994 COAG Water Reform Framework and the 1991 Inter-governmental Agreement on the Environment are cases in point. Indeed, in the case of the COAG Water Reform Framework it is hard to see the 1998 deadline being met for tradeable water entitlements. Commitments are made but not implemented. Admittedly, their delivery is sometimes complicated as in the case of water, but not in all cases, for instance, forestry.

The Commission's proposals

The ecologically sustainable management of natural resources in agriculture raises many complex issues. There are numerous environmental impacts to deal with, they vary over time and place, and do so in ways that are difficult to predict. Many impacts are specific to particular areas and most are interrelated. Consequently there is no simple answer or single solution, a comprehensive and integrated package of policy measures that accommodates this complexity is needed. The Commission's reform package aims to promote the conservation and use of natural resources and the environment in ways that minimise the risk of irreversible losses of natural capital. The package creates incentives and opportunities for individuals and regional groups to search out and implement 'no regrets' solutions to environmental problems as far as is reasonable. Finally, it harnesses the power and flexibility of environmental altruism and market-based solutions to environmental problems.

The Commission's package outlined in its report has three pillars. They are to:

- recast the regulatory regime to ensure resource owners and managers take into account the environmental impacts of their decisions;
- create or improve the markets for key natural resources; and
- encourage conservation on private land.

These are accompanied by complementary steps to strengthen the dissemination of environmental knowledge and know-how, and the local and regional institutions concerned with natural resource management.

Regulation

The first of the pillars would impose on natural resource owners, managers and users a ***duty of care*** for the environment. The proposed duty would require each duty holder to take all reasonable and practical steps to prevent their actions harming the environment. The main effect of 'reasonable and practical' is that the requirements for a particular duty holder would vary with the circumstances of each case.

The qualification balances the risk and severity of harm that might be caused against the cost and inconvenience of preventing it. The duty holder can choose the least costly means for managing the risk from the available alternatives. Changes in technology and knowledge only have to be incorporated when it is cost-efficient to do so. It thereby allows the duty to be met at the lowest possible cost. The starting point for determining what needs to be done is the ***present*** state of the environment, not one that existed in the past or might be desired now. The extent and timing of what needs to be done is defined by applying the test of 'reasonable and practical'. There is likely to be more scope to act the longer the time horizon. In the very short term very little may be required. As the time horizon lengthens, more options will qualify as machinery wears out, new knowledge is gained or other production possibilities become feasible; different crops or different patterns of rotation for instance.

The consequences of the duty of care for most producers in an industry are not likely to be substantial, by definition any additional costs imposed by it cannot be unreasonable. Those whose environmental management is 'best practice' are not likely to be affected at all. Those most affected are likely to be the minority whose management is 'worst practice'. In economic terms the duty of care seeks to internalise externalities to the extent it is economically efficient to do so. It is therefore consistent with the 'polluter pays principle' endorsed by the Council of Australian Governments (COAG). One of the practical advantages of the duty of care is that it defines where the 'polluter pays principle' ends and the 'beneficiary pays principle' begins. In principle, an intervention to do something that the duty of care defines as unreasonable should not be at the expense of the duty holder but by those who benefit from the intervention. This would promote a wide range of 'no regrets' measures to protect the environment, that is, those which are low cost or reduce costs by increasing productivity.

A duty of care has been successfully used to address occupational health and safety. In a recent inquiry the Commission noted the similarities between the environment, public health and safety, and occupational health and safety (Anon 1995). The Commission went on to propose that jurisdictions consider using the same regulatory framework for the three areas based upon a duty of care.

A more restricted duty of care for the environment already exists in some jurisdictions and one equivalent to that proposed by the Commission has been recently proposed in Western Australia (Anon 1997c).

A duty of care is the centrepiece of the Commission's proposed ***regulatory framework***.

The proposed architecture would consist of the following elements. A single unifying statute in each jurisdiction would set out the principles to be observed in natural resource management. As far as possible, voluntary standards and codes of practice would be used to guide duty holders on how to comply with the law. Mandated standards would only be used as a last resort, and then to prescribe the desired ***outcomes*** as far as practicable. The single unifying statute in each jurisdiction would replace the various statutes that currently govern natural resources and the environment. A review of this legislation in each jurisdiction is proposed to maximise the potential benefits of the proposed streamlining. This review should aim to repeal superfluous laws and ensure that any rules that are retained are modified to conform with the Commission's recommended approach to regulation.

The proposed regulatory reform places greater reliance on self-regulation, to minimise the deficiencies in 'command and control' regulation. The Commission proposes that the demonstrated application of voluntary standards should be one way of complying with the duty of care. Such standards should be able to be developed by local stakeholders; those who have the greatest knowledge of the local situation and circumstances. Voluntary standards and codes should be used to replace as many of the mandated standards as possible. Instead of using such standards, individual resource owners, managers and users should have the option of complying with their duty of care via a formal environmental management system. Such a system would need to be based upon accepted principles of quality management. They can offer considerable other advantages to certain landholders and may better fit their circumstances than a code of practice.

Natural resource markets

The second of the pillars is to improve the ***markets for natural resources***. This involves steps to remove specific impediments to the creation or expansion of well-functioning markets for key resources. It also involves pricing reforms to eliminate subsidised use. The resources in question include surface and ground water, farm forestry and native

vegetation, and native flora and fauna. The approach to market creation or expansion applies equally to waste or discharges from agricultural activities into the environment, for example, water pollution associated with agriculture. The approach is also applicable to the diversification of the uses of agricultural land, particularly the rangelands. In this regard, the Commission has proposed that Australian governments should trial a scheme for the voluntary and audited sequestration of carbon on agricultural land.

The measures centre on creating or better defining tradeable rights to use these resources. They include completing the introduction of tradeable water entitlements agreed by COAG, separating the ownership of trees from the land on which they are grown, guaranteeing forest harvesting rights prior to planting, extending the existing tradeable discharge permits to new sources of water pollution, and creating new permit systems for agricultural discharges (such as salts and nutrients). These changes will encourage more efficient conservation and use of the resources in question, thereby reducing the adverse environmental consequences currently associated with usage. In particular the proposed changes will reduce the bias in the financial incentives currently facing farmers to clear deep-rooted vegetation and over-use water. They have considerable potential to voluntarily marshall funds for better resource management and its associated environmental benefits, far more so than compulsion. There is scope to extend the existing tradeable permit schemes for salinity and nutrient pollution of surface water systems. They involve salinity in the Hunter, nutrients in the Hawkesbury-Nepean and salinity in the Murray-Darling river systems. The three schemes allow the dischargers to choose how to comply with their environmental responsibilities; the flexibility lowers the overall costs of doing so.

The success of the existing tradeable discharge permit schemes opens the way for similar schemes in other jurisdictions and for other pollutants. The Commission proposes that each jurisdiction should develop a strategy to create and extend such permit schemes.

Conservation on private land

The third of the pillars is to expand ***nature conservation on private land.*** This applies specifically to the protection of our biological diversity and natural heritage. On their own, national parks and reserves are unlikely to achieve a comprehensive, adequate and representative coverage of the nations' unique and internationally prized biological diversity. The duty of care would make an important contribution, but only to the point where it does not impose unreasonable costs on landholders (its major contribution is likely to be in bringing vulnerable habitats to public notice). More needs to be done, though, for the combination of on- and off-reserve conservation to become comprehensive, adequate and representative.

The Commission proposes that each jurisdiction should extend its use of conservation agreements with selected landholders. Each agreement would establish the conservation outcomes to be achieved by the landholders and the financial consideration to be paid by the government. Such agreements provide jurisdictions with the capacity to protect, after careful consideration, those highly valued natural assets on private land which are at greatest risk. However, each jurisdiction needs to develop a strategy it to enable to get the most out of its investment in this area. The benefits of this approach would be enhanced by the removal of any impediments to the commercial utilisation of wildlife, for example, by lifting export controls where an appropriate management system or code of practice was put in place. Such a proposal has the capacity to enhance the diversification possibilities of the rangelands and would be consistent with the recent recommendations of the Department of the Environment, Sport and Territories to the Senate inquiry into the commercial utilisation of Australian wildlife (Anon 1997e).

Charitable trusts to promote nature conservation, such as the Trust for Nature in Victoria, also use conservation agreements with private landholders to achieve their objectives. They rely on public donations to fund this work. Governments need to ensure that their tax systems encourage environmental altruism as much as any other forms of altruism; at present they do not.

Other proposals

There is a need to strengthen the ***dissemination of environmental knowledge and know-how***. The duty of care would, of itself, help to improve information flow. The Commission has proposed that the elaboration of the duty of care in legislation should include an obligation to inform the authorities of the risk of any damage to the environment. Finally, ***institutional changes*** will be necessary. Local organisations may need to be strengthened to advance local solutions to local problems—similarly at the regional level. The Commission envisages that catchment management bodies should be able to develop environmental codes of practice for their locality to guide the local landholders and others on how to meet their duty of care. There is a need to separate resource management and regulatory functions in government agencies to promote transparency and accountability.

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RANGELAND IMPERATIVES - A VIEW FROM CAPITAL HILL

Nick Abel [1] and Bill Tatnell[2]
[1]*CSIRO Wildlife and Ecology*
[2]*NSW Department of Land and Water Conservation*

Introduction

There is conflict between rangeland stakeholders over the allocation of land and water resources. Some believe resources should be re-allocated to satisfy their particular interest. Some are satisfied with current allocations, but feel threatened by the possibility of change. Others are frustrated by institutions that prevent new initiatives, including multiple use. The National Strategy for Rangeland Management (NSRM) is, or perhaps was, an attempt to express national imperatives, and a framework for addressing resource use. It will not, it seems, be signed by the governments of Australia, at least for the time being. The slow and rough passage of the NSRM is symptomatic of a political gridlock which has prevented re-allocation of rangeland resources to uses that better reflect the balance of interests in our society. This paper explores reasons for the gridlock, and looks for a way forward, using a project in the Western Division as an example.

Major stakeholders in the rangelands are the mineral industry, conservationists, pastoralists, Aboriginal people and the tourism industry. Some interactions among their interests are summarized in Table 1. The large number of positive interactions suggests there are many possibilities for resolving conflicts and securing "win-wins" - making both parties to a dispute better off. This was to be an outcome of the NSRM. Why, then, has the process stalled? Explanations lie in our history of our land allocation, and our political structure and processes. Solutions lie, we shall argue, in changes to process, policies and institutions achieved through changes in mental models of stakeholders and "influential people", and application of the principle of "leverage" (Senge 1992).

We wrote this paper as if from the perspective of a Federal government. It is not a formal research paper, but an essay on my impressions of how political processes work in Canberra. It begins with a very brief history of land allocation, then discusses how political and policy imperatives are determined, and the problem of "pluralistic stagnation". The paper ends with some ideas being developed in the Western Division of NSW.

Land allocation in the rangelands

The history of land allocation is important because once allocated, rigid institutions fix the pattern of use for long periods despite economic and social pressures.

Following European exploration in the 1830s Aboriginal people were displaced by pastoralists. Occupation and consolidation were facilitated by the British legal assumption that the land was unoccupied (because uncultivated). The contribution of rangeland pastoralism has boomed at times, busted at others, but pastoralists have established a strong political influence in all jurisdictions. The mineral industry established its influence through its major contribution to economies and government coffers. The influence of conservationists grew after the 1960s, leading to the establishment of national parks and nature reserves. It peaked in the 1980s, and is now regrouping. The tourism industry has become increasingly influential with the growth of the international trade, especially over the last ten years. It requires access to scenic and cultural attractions.

The outcome of this highly simplified history of land allocation is summarized in Table 2. An assessment of stakeholders' influence, its sources, strengths and trends, is in Table 3. I have emphasised the role of a small number of stakeholders, but far more influential in shaping land allocation have been the attributes of our infertile, dry and salty land, and the vulnerability of our small economy. I treat these as part of the decision-making environment.

In the next section I discuss how stakeholders and other groups interact with governments in the determination of political priorities. These priorities translate over time into institutions and policies affecting land allocation.

How policy priorities are determined

In this section I introduce some models, and apply them to an analysis of how political priorities might be set.

Some models

A common view of how priorities are set by governments is that:

- "the public", having one vote each, elects politicians who will represent their views
- politicians determine broad goals to implement "the public interest"
- bureaucracies convert goals into policies and programs, and oversee their implementation

the government is "in charge", steering social change, managing the environment and economy for "the public good".

Table 1. Some potential negative (below the diagonal) and positive (above the diagonal) interactions among stakeholders' interests

	Aboriginal people	Pastoralists	Mineral industry	Conservationists	Tourism Industry
Aboriginal people		• potential for access agreements • multiple land uses with shared benefits and costs	• shared infrastructure and services • employment • royalties and rents	• Aboriginal management of parks and services • Aboriginal local knowledge assists conservation • shared views on the intrinsic value of the land	• Aboriginal culture a major tourist attraction • potential for Aboriginal tourism enterprises • potential for profit sharing with tourism
Pastoralists	• exclusion of Aboriginal people • loss of pastoral land to Aboriginal claims • impact on sacred sites, medicinal plants, bush tucker, streams and landscape • appropriation of artifacts by pastoralists as a tourist attraction		• shared infrastructure and services • employment possibilities for pastoralists' children	• off-reserve conservation agreements • land management abilities of pastoralists	• pastoralists run tourism enterprises • outback experiences; pioneer culture • shared infrastructure and services • employment possibilities for pastoralists' children
Mineral industry	• impact on sacred sites • impacts on streams and landscape	• impacts of mining on streams and landscape • intrusion of mineral industry on leasehold properties		• off-reserve conservation agreements when industry buys leases • mining revenues fund conservation	• old and working mines as tourist attractions • shared infrastructure and services
Conservationist	• exclusion of Aboriginal people from conservation reserves • modern Aboriginal resource use not necessarily conservationist	• impact on species and communities • impacts on streams and landscape • poor pest management in neighboring parks and reserves	• impacts of mining on streams and landscape • impact on species and communities		• parks and reserves a tourist attraction • revenues from tourism fund conservation
Tourism Industry	• impact on sacred sites • appropriation of profits from Aboriginal culture by industry • Aboriginal culture not always compatible with business culture	• interference with pastoral management • pastoral management can affect landscape negatively (clearing, riverine impacts etc)	• impacts of mining on streams and landscape • noise and dust	• impact of tourists on sensitive species or communities • fossil fuel use • impacts of tourism on infrastructure	

Table 2. Land tenure in the rangelands (Source; Anon 1996)

Tenure	Percent
Leasehold (non-indigenous)	52.5
Vacant Crown land	15.2
Aboriginal freehold	12.2
Nature conservation reserve	6.6
Freehold (non-indigenous)	5.2
Aboriginal reserves	3.4
Aboriginal leasehold	2.8
Other Crown land	1.2
Defence	0.2
Aboriginal freehold - national park	0.2
Forest reserve	0.1
Other	0.4

This does not happen. If it did, the values attached by society to rangelands would be translated into land allocations that matched the relative strengths of those values. But there is no reliable way to convert individual preferences into territory, state or national rankings (Arrow 1963), and priorities are determined by politicians on criteria other than "popular opinion". In this section I describe how this happens. The focus is Canberra. States and territories develop their own political priorities which influence national outcomes.

My model is adapted from Cocks (1992), Doyle and Kellow (1995) and Walker (1994). An important adaptation is addition of the concept of "mental models" of our social and bio-physical environment (Kelly 1955; Craik 1952; Johnson-Laird 1983). According to these authors each of us has a mental model constructed from past experiences. We select incoming information and interpret it according to the model. It predetermines how we perceive "reality". Sometimes we modify the model to fit new experiences. More often we absorb information which supports our model, shedding that which does not ('don't confuse me with facts, my mind is made up"). Sometimes we change the information to suit the model.

Each of us has different mental models. Science is an attempt to grasp reality through the mists of our mental models, but scientists have characteristic mental models which are no closer to reality than those of non-scientists on matters outside their discipline. Other groups can be characterised by their mental models too - pastoralists, bankers, stock-brokers (Mackay 1994; Abel *et al.* 1996).

Mental models are significant in the political process because it is they, not reality, that guide behaviour. For example, it is easier to feed voters or politicians' mental models with an impression they are likely to accept, rather than doing research (which often leads to equivocal results). Thus conservation lobby groups are able to gain influence by warning of environmental catastrophes without support of sound research. Politicians are able to frighten leaseholders with fears of widespread losses of their land to Aboriginal land claims, without establishing the extent or likelihood of occurrence, or success, of such claims.

When mental models are shared by a large group they can be thought of as paradigms (Kuhn 1970). Since settlement a "developmental' paradigm has dominated Australian culture and political life (Walker 1994). This sees the economy as separate from nature. The impacts of direct resource use or wastes tend to be ignored, and nature is perceived as a set of resources valued according their economic worth. Government is expected to guide and promote the exploitation of resources so the nation can grow. Colonial governments facilitated the establishment of pastoralism and mining through the granting of leases and mineral rights, and heavy investments in infrastructure and services.

Table 3. Political influences of stakeholders

	Relative Strength Now	Postulated Reasons for Relative Strength	Estimated 20 Year Trend	Reason for Trend
Tourism Industry	Moderate	• Good returns to capital • Provide employment • Urban and international capital	Growing	• Growth in demand for diminishing "wilderness" • Perceived as "non-consumptive"
Conservationists	Moderate	• Conservationist paradigm clashes with dominant developmental one • Perceived as anti-growth, so anti-jobs (limits their influence)	Growing	• Concerns about sustainability of resource use • Species losses • Support from urban middle class • Support from scientists
Mineral Industry	Strong	• Economic importance • Provide employment • Infrastructure shared with other resource users	Stable	• Demand steady • Improvements in technology maintain competitiveness
Pastoral Industry	Strong	• Aussie icon status - the self sufficient pioneers • Economic importance in the past • Uniformity of rural voting • Voting systems and electoral boundaries	Weakening	• Perceived as damaging the land by urban people • Perceived as subsidised • Low and diminishing economic importance • Decline in relative numbers
Aboriginal People	Weak	• Loss of land and culture • Protection policies in the past • Low numbers	Growing	• Political activism • Moral strength of their case • Growth in numbers • Some urban middle class support

A rival environmentalist paradigm is emerging, wherein the economy is seen as embedded in nature, dependent on it, and able to harm it. The environment is perceived to comprise interdependent sub-systems of life support and waste-absorption, resources with use-value, and species and communities valued simply because they exist. Developmental and environmental paradigms are both in conflict with a third that is newly influential

"Economic rationalism", like developmentalism, sees nature as economic resources. Unlike developmentalism, it downplays the role of government in nation-building. Instead it emphasises de-regulation, free markets, removal of subsidies, private ownership, low taxes, and reduced welfare support. This fits uneasily with past policies on the rangelands, under which governments' investments in infrastructure and services enabled widespread pastoral occupation. Drought relief continues to prolong the existence of some enterprises. Economic rationalism is also in conflict with the spirit of the NSRM, for its implementation would require government support. Environmentalism conflicts with economic rationalism for the same reasons that it is in dispute with the developmentalist paradigm.

Political imperatives

Factors affecting the selection of political imperatives include the integrity of the nation, the influences of states and territories, what voters want, and the influences of bureaucracies, government itself, and the media.

The integrity of the nation. The foremost imperative for an incumbent government is to maintain the integrity of the nation against internal or external threats. Thus we have expenditure on defence and police, and trade policies which attempt to maintain international competitiveness in delicate balance with Australian jobs. Thus industries such as clothing, textiles and footwear, which employ a lot of people, argued successfully for the maintenance of tariffs. Agriculture in general, and rangelands in particular, employs few people, and must compete with relatively less assistance on international markets.

Another aspect of maintaining the integrity of the nation is the diversity of political stances adopted by the states and territories. Variation in their responses to the draft National Strategy for Rangeland Management is an example. Some opposed the signing of the NSRM by the Ministerial Councils (Agriculture and Resource Management Council of Australia and New Zealand - ARMCANZ; and the Australia and New Zealand Environment and Conservation Council - ANZECC). Support of all jurisdictions was needed if the NSRM was to become national policy, in order to reinforce national integrity.

Influence of the states and territories. Variation between jurisdictions is in part a reflection of their colonial histories. For example, Tasmania, Victoria and NSW were fully colonised early, consequently have relatively small Aboriginal populations. They feel less threatened by land rights than Queensland and the Northern Territory. This may explain some of the differences between jurisdictions in their responses to the draft NSRM.

Voting systems also matter. For example, Tasmania has the only lower house with proportional representation, so that the Greens, a minority party gets elected under a quota system and is able to influence political priorities. In contrast Queensland elects representatives to parliament under the same preferential system as all other lower houses, but lacking an upper house it is very difficult for minorities to get issues on a political agenda.

Finding out which voters want what. Re-election is another major imperative, so pleasing voters is important. Each electorate has its own political priorities, which a successful candidate must satisfy. The biased distribution of these priorities among electorates is an important reason why elected members are unlikely to represent the interests of the population in an unbiased way. Rural voters tend to be a reliable constituency for the National Party, which consequently is welcomed into coalition with the Liberals. Together they have been able to win enough seats to govern. Urban voters are more diverse in their preferences, so vote against each other within the same constituency. Because rural people vote less against each other, they get relatively more members elected, and consequently have an influence that belies their small absolute numbers. Understanding of the spatial distribution of voting patterns has in the past encouraged gerrymandering - adjustments of electoral boundaries to favour re-election of incumbents.

"Policy groups" are usually eager to tell politicians what they want. A policy group comprises individuals with a more-or-less common view on an issue. They can be concerned private citizens, resource users, researchers, politicians, members of formal or informal organisations or lobby groups. A number of policy groups is likely to form around any one issue. Individuals belong to different policy groups depending on the issue at stake. For example, conservationists form one policy group in relation to the rangelands. Members belonged to formally defined conservation groups, research organisations and universities, bureaucracies and political parties. Another policy group is that representing pastoral interests, which includes the wool industry, farmers' and graziers' organisations, some members of Landcare and catchment management committees as well as individual pastoralists. Other policy groups are associated with Aboriginal and mining interests.

The influence of bureaucracies in setting political priorities. The TV series "Yes, Minister" illustrates for the UK how strong bureaucratic influence can be. Departments supply frequent and direct policy advice, usually at short notice. Theirs is the responsibility of compressing complex issues onto one sheet of paper. The level of their influence depends on the political ideology of the incumbent government. Canberra's bureaucrats might have preferred Genghis Khan to John Howard, yet under the Coalition they remain influential.

Bureaucracies have the task of developing policies, thus have opportunities to impart a departmental spin. The federal Department of Primary Industries follows a developmentalist paradigm. It provides the secretariat for ARMCANZ. The secretariat for ANZECC is provided by Environment Australia, which subscribes to an environmentalist paradigm. The importance of the mental models of bureaucrats is further demonstrated by the rise and rise of "economic rationalism". Having spread through the US, UK and elsewhere, this mental model took root in Australia even as its influence was shriveling where it originated. Pusey (1991) argues that "rationalists" gained control over virtually all Labour government policy through their positions in key federal departments, Treasury in particular. There is no evidence that their influence has declined.

The influence of the media in setting political priorities. The influence of a policy group at any time depends on the perceived state of the environment, economy, jobs or society. The media play a crucial role in feeding the mental models of political players. Thus rural newspapers have fuelled fears over Aboriginal land rights. The media have also brought the degradation of land and water to the attention of voters, often inaccurately from the perspective of a scientist. Journalists have their own mental models, and other policy groups, scientists included, attempt to feed or change them through information. Politicians use the media as conduits to the mental models of potential supporters. The media need financial security, so are under pressure to confirm the mental models of those that buy their products. Employees of privately-owned media are subject to pressure from their owners. Those in publicly-funded media are at the mercy of the mental models of politicians, as the ABC has learned.

The influence of government in setting political priorities. A government has strong influence over the determination of priorities through its control over what is included on the political agenda. It does this by selecting which policy groups it will consult, which sub-groups within them, and having consulted, whether it will take the advice. Groups which are not "mainstream" find it difficult to get on the agenda, thus Aboriginal interests have been unexpressed for most of last two centuries. Environmentalists have been disadvantaged by holding mental models which conflicted in the past with developmentalism, and now with economic rationalism. The ability of pastoralists to get on the agenda is slipping as they too confront economic rationalism.

Exclusion from the agenda is a powerful form of control in a democracy. Any item which concerns a minority group that gets onto the agenda could attract wider support, and become an influence on voters. Aboriginal land rights is an example - it now attracts some urban middle class support. This may not have happened if it could have been excluded from the agenda.

Is anybody in charge out there?

I will assume for now that my representation of relationships among rangeland stakeholders, and of how political priorities are set are approximately correct. The next priority is to work out how to promote better use of rangeland resources, and realise the many "wins-win" solutions that now lie unused.

The title of this section is from Cocks (1992). The answer is "not really". The ability of a government to dictate the direction of society is strongly limited by the need for an electoral majority when voters' priorities differ. Cocks calls the resulting inertia and inability to plan for the future "pluralistic stagnation". A Marxist might assert that priorities in our capitalist society are determined by what we produce and how we produce it, that governments serve the interests of commerce and industry, and that revolutionary restructuring of society is the only way to change those priorities. As an Australian Rangeland Society conference is an unlikely place to start a revolution, it is as well that there are less radical options. They involve mental models, and the concept of "leverage".

The way we communicate and learn is all important in designing an effective strategy. I said earlier that our mental models are the mechanism through which we interpret reality, and that they determine our behaviour. According to Kelly (1955) their components, or "constructs", are arranged hierarchically. The interpretation of incoming information is to a high degree predetermined by the structure. Information which confirms constructs is accepted readily. Because it is hierarchical, changing one part can mean major structural re-arrangement of the model, and this can make it dysfunctional. Thus information which contradicts the model is commonly ignored or re-interpreted. Although less common, information conflicting with the model can cause it to change, with consequent changes in behaviour. When this happens in a scientific discipline Kuhn (1970) calls it a paradigm shift.

The conventional solution to resource management problems is for researchers to analyse and design in isolation, and communicate through reports and papers. Convergence and mutual understanding of mental models does not occur, and information is ignored, shed or distorted. The only shared feeling is frustration. In the rangelands this applies to

communication among all players - stakeholders, politicians, public servants, researchers and policy groups. I suggest that to communicate and ultimately change behaviour, we need mechanisms for sharing experiences. Changes to mental models are brought about by new experiences more often than by being told. This is the psychological basis for methods like Action Research (Bawden 1991) and Adaptive Management (Holling 1978). In both approaches, managers and researchers work together in the analysis of a resource management problem, development of theory and methods, and the design of solutions, including new policies and institutions. Experiences are shared as the analysis proceeds. The aim is not to achieve uniformity of mental models, but to enable mutual understanding of them (Kelly 1955).

It is important that we recognize where conflicts among mental models are likely to lie. For example, many of the measures needed to promote constructive change in the rangelands would be anathema to economic rationalists. There will be government bodies with personal stakes in maintaining current policies and practices, not least because the budgets of their ministers and salaries of their staff depend on it. Some commercial enterprises may be content with current arrangements. All are reasons for including such groups in the analysis.

Given the scale and complexity of land use issues in the rangelands, and the power of vested interests, a small policy group cannot have a significant direct influence. But it can use the principle of leverage, borrowed from physics (Senge 1992). A systems analysis of links between the political process and resource allocation shows where a given effort would produce the greatest effect.

These ideas are explored in the next section

Some ideas from the Western Division

Figure 1 is the structure of a project from the Western Division of NSW. It shares some aims with the West 2000 project, and the strategic plans of the two Catchment Management Committees of the Western Division. It is one of three similar projects funded by the Land and Water Resources R&D Corporation. The other two are in Western Australia and Queensland. The NSW project involves stakeholders, "influential people", the Department of Land and Water Conservation, the National Parks and Wildlife Service and CSIRO. Its aim is to develop a politically feasible pattern of sustainable land use - a vision - and the means of achieving it.

The "vision" is being developed using the mediation process SIRO-MED (Cocks and Ive 1996). Stakeholders participate with researchers and facilitators in the development of land allocation preferences, one for each group. In a negotiation exercise, trade-offs are made, "win-win" solutions agreed, and a single scenario developed. This becomes the vision for the Western Division - not a land use plan, but an expression of negotiated preferences for which land type should be used for which purposes, and statements about preferred combinations of compatible uses. This process provides the experiences that enable mutual exploration of mental models, learning and understanding. However, if my interpretation of political processes is about right, it will not, on its own, lead to change on the ground. For that to happen we need changes in the mental models of "influential people".

Influential people are players in the political process who have strong leverage in some part of the whole system. Leverage might be at local, regional, state or federal level. They will be politicians, political advisers, business leaders, public servants, in local government, members of policy groups, researchers and the media. We are asking them to attend workshops at which we develop influence models of two kinds. One is of factors affecting land allocation in the Western Division - economic influences, history, policies, institutions, biophysical attributes and so on. The other kind is a model of the policy-making process, much improved on the tentative one outlined in the first part of this paper. Both models will represent the composite mental models of influential people. Their personal mental models will be exposed to the experience of policy analysis and design under the influences of the mental models of other players. On the assumption that experience stimulates change in mental models, it is expected that changes in the mental models of influential people, and improved understanding among influential people and stakeholders, will together lay the basis for changes in resource use in the Western Division, but not through conventional land use planning.

In conventional land use planning the emphasis is on zones and physical allocation of land to them. In this project the concern is not with use on specific sites, but with the social values and principles of allocation, and the changes in policies and institutions necessary to realise potential win-win solutions. Obvious ones having leverage are tenure systems, infrastructure, services and tax arrangements. New tenure arrangements might realise win-win solutions through regulations that promote compatible land uses. Policies could promote new land use mixes through seed capital, or stewardship agreements for nature conservation. Pastoralists are already discussing arrangements with the Department of Land and Water Conservation in which agreements to clear one site for cultivation are traded for an undertaking to set aside another for nature conservation. The list of potentially beneficial changes is long (Young 1997), but rigidity of mental models, policies and institutions imprisons them for the present.

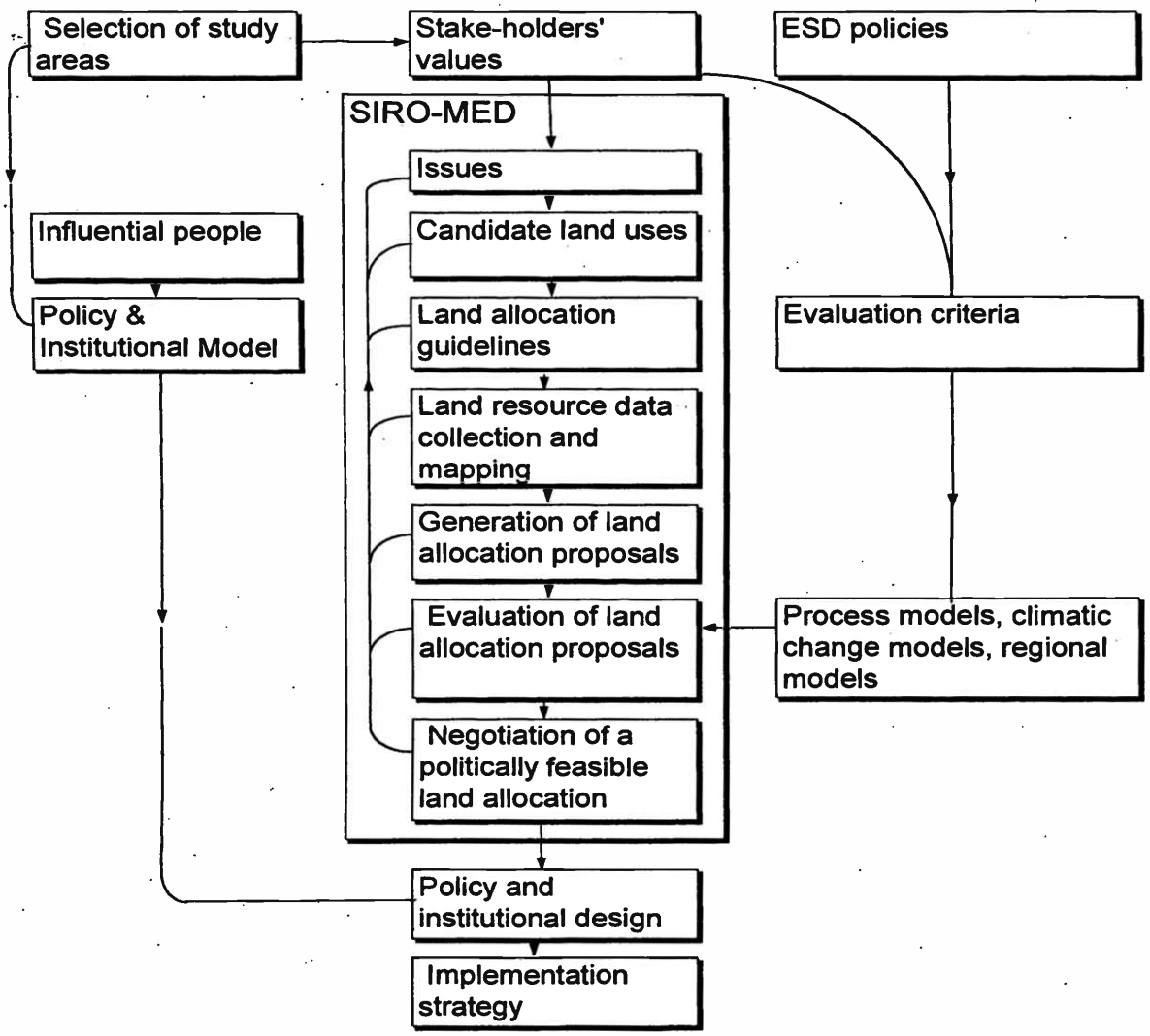

Figure 1. Structure of a project on sustainable use of rangelands in Western NSW.

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MEETING THE NEEDS OF THE RANGELANDS – A VIEW FROM THE CITY

Elizabeth Woods
Department of Natural and Rural Systems Management University of Queensland Gatton College

Introduction

Policy and policy directions for the rangelands are one significant expression of views and beliefs held by those outside the rangelands. The intended and unintended outcomes of policy can be seen by people of the rangelands as measures of city expectations and sympathy for their situation. In this paper I begin by briefly setting out a philosophical context for thinking about policy development relevant to the rangelands and about how the rangelands may be impacted by policy directions. I then examine data from recent processes of policy formulation for rural Australia illustrating the strengths and deficiencies of some current policies in relation to the future of the rangelands. Finally, I will comment briefly on how the situation might be improved in the future.

A context for policy development through a focus on human activity

The traditional Australian view of the rangelands has been dominated by an agricultural development perspective – of pioneering outback people winning economic returns from a difficult and unpredictable environment. As a result policy perspectives in relation to the rangelands have been heavily influenced by broader views of agricultural development. Several authors have traced shifts in the focus of thinking about agricultural development in developed countries since 1945. Röling and Jiggins (1994) outlined the progression in Dutch agriculture - from being dominated by a production imperative (driven by food shortages during the Second World War), to the rise of entrepreneurship (with an emphasis on improved business management to improve profitability), and more recently the emergence of an ecological imperative (where farming is defined as a natural resource management function). This progression is consistent with the rising interest in the environment and resource management significance of the rangelands. Bloome (1991) described agriculture in the US as moving through a developmental transition from a production orientation to a farm management focus to being market/ demand driven and recently reaching recognition of farming being best described by a human development model. In this model farmers' decision making is viewed as driven by goals of personal and family development as well as by broader societal goals, requiring that ***"agriculture renegotiate its contract with society".*** I will argue that this process of renegotiation is at the heart of developing policies based on realistic expectations of the Australian rangelands.

How can a human development model accommodate the high priority of environmental management policies in the rangelands? Viewed from the perspective of a human development model, it is no coincidence that awareness of the environment and the concept of ecological sustainability have arisen at the same time as issues of resource use conflict and growing evidence of resource degradation in the rangelands. In a policy sense environmental awareness is fundamentally related to our need to use resources to survive, but the issues and the interest arise not from a ***people-thing*** interaction (people using the environment) but from a ***people-people*** interaction (people negotiating or competing over resource use) (Röling 1996). Similarly the role of science and scientific experts is not just to understand the environment and the functioning of natural systems; science must be conducted in ways which inform and add to the processes of negotiation between people about their use of and relationship to the environment. Cloonan and Roberts (1997) have proposed the need for researchers and extensionists to explicitly recognise human activity systems as the context for their contribution in the rangelands.

Having suggested a human development model as the appropriate policy framework, I would then argue that the appropriate system on which to focus policy development is the people of the rangelands, with their human activities and the needs of rural communities and wider Australian society replacing a central focus on agricultural industries (as proposed by Sher and Sher 1994). Such a shift would recognise that a reducing proportion of regional economies is based on agriculture and that future returns from agriculture will not provide the means for the fulfilment of the aspirations of a significant number of people currently reliant on agriculture for their livelihood. The argument for a focus on rural development and rural communities rather than sectoral or resource based policy is not new (see, for example, Wright 1983) and has been taken up in several policy initiatives for rural areas in Europe. Australia's rangelands people have less flexibility to diversify their activities than most others in Australia, but today's symposium acknowledges that the rangelands are home to several economic activities outside pastoral production.

The 'rural policy' proposal is based on the premise that it is necessary to consider integrated economic activities (rather than just agriculture) as the basis for healthy rural economies. Other assumptions which form the basis of institutional arrangements and policy development may also need to be reviewed. Shaffer (1994) proposes that ***sustainable community economic development is less of a natural/physical/ biological phenomenon and more of an institutional phenomenon (p270).*** He argues that developing policies, behaviours and institutions which are necessary to achieve sustainable development in practice, requires reconsideration of assumptions relating to growth, the extent to which the market or the state involves itself in development, and how the needs of marginalised groups are accommodated.

Applying these ideas to the rangelands, it follows that the appropriateness of policy approaches may be judged by the extent to which all the current and potential activities – not just the agricultural activities – are considered. Inherent in the approach is the requirement that people also be empowered to participate in the process of policy development and that appropriate platforms and forums are created for ongoing debate. Abel and Tatnell (1997) reaches a similar

conclusion and describes a project in the Western Division of New South Wales, which aims to identify a politically feasible pattern of sustainable land use and the means of achieving it.

In this paper I use recent national policy reviews and decisions (endorsed in most cases by state governments through the ARMCANZ process of ministerial councils involving state and national ministers) as one way of interpreting what the city wants from the rangelands. It is worth noting that there are other schools of thought in relation to rural policy development (see for example, Lawrence 1996). The arguments are concerned with the consequences of globalisation and environmentalism, including the proposition that policy agendas now and into the future are being less driven by state and national governments. There is a view that increasingly it is international agreements and the commercial policy decisions of a small number of transnational companies which set the agendas relevant to the agrifood sector as a whole. The process is supported by trends such as vertical integration between production activities and the corporate food sector, deregulation of banking and finance which links greater farm indebtedness with broader international commercial lending priorities, and an increasing emphasis on export and the internationalisation of interests of Australian food processing firms who have set up off shore activities in addition to their traditional domestically based business. Such global influences raise questions about the extent to which regions such as the rangelands and nations such as Australia can develop their own identity and future. What is the capacity of individuals in the rangelands to retain benefits of their efforts in a situation where their productive activities will be increasingly tightly linked with the priorities of corporate entities in agribusiness?

Developing a perspective of human activity in the rangelands

In the previous section I have argued that a human development model including all significant rural activities is an appropriate policy approach because the implementation of policy measures depends on inducing change in human activity systems. Change cannot be directly induced in industry or the environment – human actions are required to initiate new conditions. The premise that reality is socially constructed is consistent with this approach - reality is a concept created by people. From this idea flows recognition that judgements about the priority of problems or issues depend on the perspectives from which a particular situation or issue is viewed. In developing a perspective of what the city wants from the rangelands, I have chosen to review data presented in several recent studies which have been prepared in the context of policy development for rural Australia. Having argued that a holistic approach is desirable, the focus in relation to industry trends is principally on the agricultural activities. This analysis is, I believe, sufficient to reveal several serious inconsistencies and deficiencies which prevent clear policy signals about what the city expects of the rangelands.

Agricultural industry trends

Agricultural industry trends have been summarised in the recent mid-term review of the Rural Adjustment Scheme (McColl *et al.* 1997). Data in this section are from that report unless otherwise indicated. The volume of Australia's agricultural production has risen by an average annual rate of 2.2% since 1950-51, through expansion in the area farmed and productivity growth. However, a downward trend in real prices has offset the increasing volume of production and the real value of Australian farm production has not grown. The industries with most significance to the rangelands are sheep and beef. These industries - with grains - are included within the broadacre industries. In the last ten years the value of broadacre exports has declined at about 1% per year.

The contribution of farm production to the Australian economy has declined from 18% of GDP in 1952-53 to about 3% of GDP in 1995-96. The total number of farms with an estimated value of agricultural operations of $20 000 or more declined by about 1% per year between 1982-3 and 1994-5, with the decline in the number of sheep farms at 1.1 % and mixed livestock-grains at 3.8% per year. In this period the number of sheep-beef farms increased by 1.9% and beef farms by 3.3% per year (indicating switches in enterprise in response to market prospects).

Between 1985-86 and 1995-96 the largest third of broadacre farms ranked by farm receipts accounted for 70% of the gross value of production and all of the profits (when the average profit/loss balance is calculated for small, medium and large size groups). Sheep and beef industries have the lowest proportion of large farm businesses. This is not unexpected as during this period both wool and beef prices have been low, and large areas of the rangelands in both NSW and Queensland have been subject to protracted drought. The livestock industries showed lower productivity gains than the grain industry (4.6% per year) for the 1977-78 to 1993-94 period with sheep being the industry with the lowest productivity gain at 1% per year (McColl *et al.* 1997).

Agricultural producers in the rangelands face very limited opportunities for adjustment. While the rangelands includes around 70% of the continent's land, Gleeson and Topp (1997) quote results suggesting this area accounts for only 7% of the gross value of Australian broadacre agricultural production and 3-6% of the total value of agricultural production (approximating 0.1% of GDP). They suggest that apart from abandoning farms altogether, adjustment in the rangelands is likely to occur through larger holdings, better genetic adaptation of animals, better management of stocking rates, and changed ownership structures. However, in view of the overall trends it is hard to see these adjustments providing adequate livelihoods from any but the biggest of the agricultural businesses in the region.

Agricultural production in the rangelands differs significantly from the rangelands' other major primary industry – mining – in that ownership of the mining industry is not located within the region. The decision making processes

about the sustainability and viability of mining enterprises are separate from the personal aspirations of rangelands people about lifestyle and career; the people working in mining are employees. Recent experience suggests society applies an expectation that these employees will move to alternate work if their current work ceases to exist.

In summary, the extensive grazing industries have suffered the declining terms of trade experienced throughout the agricultural sector over the last ten years, and have been less able to achieve productivity gains to offset their situation. There are fewer large businesses in the extensive grazing industries, and since profits are concentrated amongst large businesses, this suggests fewer profitable businesses. While new technology will continue to enhance the profitability of the largest businesses, agriculture in the rangelands is declining in terms of viability and provides limited prospects for adjustment, but it is intimately associated with the activity systems and aspirations of many rangelands people. By comparison, people involved in mining activities in the rangelands are expected to be flexible in their response to economic downturn.

Government assistance to agriculture

The Industry Commission (1996) has calculated the effective rates of government assistance to agriculture at 10.7% of value added in 1994-95, compared with assistance to manufacturing industries of about 9%. This compares with the historic situation where the average effective rate of assistance to manufacturing has been higher than that provided to agriculture. Within agriculture the effective rate of assistance to the extensive grazing industries was relatively low, at 4.7%, suggesting agricultural producers in the rangelands have had access to relatively low rates of government assistance. In the recent review of business programs, Mortimer (1997) proposed that assistance should be based on the Government creating an environment where resources – both capital and labour – can flow to the most productive industries and businesses. Given the relative position of the extensive livestock industries within the agriculture sector which is itself shrinking in relative importance, it would be difficult to mount an effective argument for a higher level of government industry assistance to benefit rangelands businesses.

The recently released *Agriculture – Advancing Australia* policy package of the Australian government (Department of Primary Industries and Energy 1997) departs from an exclusive focus on industry and is positioned as a policy initiative for farmers and rural communities. New farmer provisions include:

- a Farm Business Improvement Program (FarmBis) supporting training activities to help farmers improve the productivity, profitability and sustainability of their businesses;
- a Farm Management Deposit as an improved financial risk management tool for farmers;
- assistance to retiring farmers to promote intergenerational transfer of properties while retaining eligibility for the Age Pension; and
- a Farm Family Restart Scheme providing a welfare safety net for low income farmers.

The Rural Communities Program will support infrastructure needs in relation to community development, information technology infrastructure and regional strategic planning. Amongst the provisions to cease are Farm Household Support and interest subsidies under the Rural Adjustment Scheme, with interest subsidies to be phased down under provisions for Exceptional Circumstances, including drought.

Rural people in financial crisis, poverty and social welfare

Garnaut *et al.* (1997) estimated that there were a total of 16 235 households in remote areas with a further 2 273 households in remote centres (with a population of greater than 5 000). The largest numbers of farms in remote zones were in Queensland (7545) and Western Australia (5152). With an average household size of just greater than three, this suggests a maximum of about 50 000 people living in the parts of Australia classified by this study as remote.

There is a widespread view that poverty is worse in rural and remote Australia than in urban Australia. Poverty is notoriously difficult to define and measure, and a comparison of rural and urban poverty presents some special difficulties because the lifestyles and needs differ. Davidson and Lees (1993) conducted a careful and comprehensive study of the measurement of poverty in rural and remote areas using a definition to identify remote areas which included all of the rangelands. They concluded that there was evidence to support the assertion that poverty was higher amongst farmers than urban people, and poverty was slightly higher in remote areas than in rural areas. However, farm poverty was not as high as might be first thought, because of adjustments necessary to take account of the cross subsidisation of family and business expenses on farms and special provisions available to farm families such as tax averaging.

Garnaut *et al.* (1997) assessed the delivery of commonwealth social support programs to farm families. Average farm household assets were found to be above the Australian household average. A comparison of farm and Australian household income distributions showed that both populations had a similar proportion with nominal incomes above $40,000 (around 36%). Amongst those with lower incomes, 14 % of farm households had incomes of less than $5 000 and 49% had incomes between $5 000 and $40 000, compared with 2% and 63% respectively for the whole Australian population. There was substantial under-application for some support programs amongst the farm population, with the largest group – a potential additional 35% - likely to be eligible for the old age pension. While awareness of the support programs was high, many farm based people assumed they would be ineligible for support and did not apply. Others

did not consider they needed support or over-valued their assets and were ruled ineligible. Amongst those in receipt of support a higher proportion of farmers received the maximum allowable compared with other social security recipients. Interestingly, it was found that amongst farm families, a higher proportion of those aged 16-17 years were in full time education than is the case overall for the Australian population.

Evidence of the extent of demand for services in response to rural crisis can be seen in the program reports of rural counsellors supported under the Rural Counselling Program (which in future will be funded through the Agriculture - Advancing Australia program). For the six months to 31 December 1995 rural counsellors assisted 4994 clients with total debts of $1.189bn (RASAC Secretariat 1997). While there is no breakdown of the proportion of this activity in the rangelands, many rural counsellors are located in the extensive grazing areas of Australia and in these isolated regions, their role is stretched to include personal counselling and financial consultancy and training.

The principles underpinning welfare support are outlined in the Review of the National Drought Policy (Drought Policy Task Force 1997). It proposed that access to welfare payments should be equitable with all other groups in the Australian community. Farmers with high net assets should access commercial finance to support themselves during periods of low income. In the long term farmers with low equity who are unable to maintain their income during downturns would be expected to leave farming or make themselves available for off farm work, thereby gaining access to the usual welfare arrangements. Similar principles are embodied in the provisions of the Agriculture -Advancing Australia package.

In summary, there are relatively few people in the remote areas of Australia. There is some evidence that while rural Australians on farms may have more assets than other Australians, a higher proportion of them have very low incomes than other Australians. While awareness of social security provisions is relatively high - for a range of reasons many do not access the welfare support available to them. The principles underpinning provision of support are equity of treatment with other Australians and an expectation that farmers faced with poor long term prospects will adjust by leaving farming or seeking off farm work.

Sustainable agriculture and risk management

Government policy has broadly embraced the goal of sustainable development but the implementation of necessary changes to management practices is almost universally based on farmers' adopting an attitude of self reliance through voluntary decisions and self funding. Hence while the Government's ultimate aim was stated as property management planning becoming the norm in Australia (Anon 1996) the decision to adopt it rests with producers. Government begins the process but sees its continuation as driven by the private sector and involving producers and other stakeholders. Implicit in the approach is an expectation that property management planning will result in greater business turnover benefiting both producers and those who supply them with goods and services, as well as longer term economic and environmental benefits at both the catchment and regional levels. As noted in the preceding section the long term trends suggest that the likelihood is low of greater business turnover in the extensive grazing industries of the rangelands. Both the low likelihood of experiencing positive business results from voluntary decisions to improve property management planning and the lack of capacity to self fund necessary changes suggest that this mechanism to attain sustainable development may have limited impact.

Similar inconsistency and tension is evident in the Review of the National Drought Policy. The Drought Policy Task Force (1996) noted that ***the reduction in breeding herd numbers in affected areas means the impact of the drought will be felt by livestock industries for an extended period beyond the ending of the drought event. Herds will need to be rebuilt and incomes in some areas will not return to 'normal' for at least four years (p.16).*** At the same time producers face an expectation that they will deal with environmental damage recorded in the recent drought, including loss of vegetative cover and subsequently soil cover, death of perennial species and a reduction in the seed pool of annual plants, as well as domination by less palatable species and invasion of weeds. The available technology – of Brahman-blood cattle in northern Australia and drought supplementation strategies, creates the potential for serious environmental damage to occur if stocking pressure is not reduced in drought conditions. Clearly the financial pressures on rangeland producers make short term decisions to protect the environment difficult.

Submissions to the Task Force raised similar tension between the principles underpinning drought assistance and the concept of self reliance, based on a concern that the provision of drought assistance encouraged continued production activity during drought resulting in environmental degradation. The latter concern was reinforced by Henry (1996) who noted that the taxation provisions for livestock valuation (which mean that tax is deferred until the herd is sold) have the effect of making producers reluctant to de-stock in times of developing drought conditions. He concluded that farming has the symptoms of a sector "favoured" by many tax concessions relative to other sectors – high asset prices, low pre-tax returns on investment, and constant pressure for low income participants to leave the sector.

The Mortimer Review (Mortimer 1997) also addressed the issue of sustainable resource management and proposed a single overarching program framework to apply across all industry sectors –

- for additional capital investment in the natural resource base,
- for cooperative partnerships between communities, industry and all levels of government, and

- to encourage the uptake of production methods which do not damage the productive capacity of the natural resource base.

The review emphasised the need to focus on outcomes. Amongst suggested performance indicators were increased capital investment in the natural environment, more cooperative partnerships for natural resource management, improved productivity and increased awareness of sustainable practices, and improvements in the quality of the resource base including a decline in the rate of loss of biodiversity.

The Draft Report prepared by the Industry Commission (1997) in its inquiry into Ecologically Sustainable Land Management also emphasises the need for policies to focus on outcomes. Three pillars are proposed in the Commission's reform package to promote the conservation and use of natural resources. They are recasting the regulatory environment around the concept of a duty of care, creating or improving a market for key natural resources, and encouraging conservation on private land. The duty of care would require producers to comply with voluntary standards and outcomes – again a dependence on voluntary action.

The economic performance of the pastoral industries in the rangelands in recent years makes it difficult to conceive how producers (especially small and medium family businesses) will take voluntary actions to achieve these improvements, and the long time frames of change in rangelands production systems mean that any improvement in resource condition will be imperceptible in the short term.

Expectations in current policies and opportunities for improvement

In his opening address to the Rural Finance Summit in 1996, John Anderson encapsulated what he, as Minister for Primary Industries and Energy, believes Australia needs from primary producers, including those of the rangelands. He highlighted the need for sustainable performance from an agricultural sector that is internationally competitive – able to capture both markets and investment capital in Australia and overseas. He presented this vision in the context of a current situation he described as ***the farm sector...poised on the brink of a period of significant adjustment resulting from the cumulative effects of any number of difficulties in the 1990's, severe drought predominant among them (p2)***. He emphasised the need to address issues of rural poverty through a welfare safety net which operates adequately for rural people and the need to enable farmers to address serious issues of resource degradation. Other conditions whose provision he saw as within the government's responsibility to primary producers included an internationally competitive economic environment, a cost efficient upstream sector, and the provision of tools with which to manage risk. The whole address was underpinned, however, by a focus on self reliance: ***...our role in government is to set in place the policy framework. The results themselves must be achieved by industry and the community (p5).***

The Minister's view reinforces the data relating to policy directions presented in the preceding sections. The expectations of the rangelands are for:

- agricultural industries to operate competitively with current or reduced levels of government assistance;
- rural people to be eligible for social welfare provisions on a basis which is equitable with the support available to other Australians;
- rural people to deal with economic downturns and environmental damage (such as that recorded in the recent drought) through strategies emphasising self reliance.

These expectations are held in the face of long term trends which suggest

- limited capacity of many businesses to improve productivity and only the largest of the businesses likely to be able to maintain economic viability based on agricultural production alone;
- that social welfare provisions are not always taken up, despite high awareness;
- that only a limited number of rangelands people (mostly associated with larger businesses) will be able to make substantial change to their profitability or to the state of the resources they manage through voluntary decision making and self funding, despite major investments in the provision of training contained in the new Agriculture - Advancing Australia package (through the FarmBis proposals), Property Management Planning and Drought Policy.

The policy focus is on the industries or resources of rural regions ***(people-thing interactions)***. If, on the other hand, the policy focus were on the people of the rangelands, their situations, and the expectations that other Australians have of them (consistent with a human development perspective and a focus on ***people-people interactions***), we would expect to see policy discussions which overtly address what other Australians desire of the rangelands and how much they are prepared to invest to meet their requirements. There is a genuine questioning amongst rural people about whether the rest of Australia wants a rural sector, which has been dismissed to a large extent, as a cry of pain in difficult economic circumstances. The data suggest that this is a real question and one which is not addressed by the inconsistency of policy directions with the available data. A clear answer to the question might facilitate rural people making realistic plans for their future – developing self reliance as desired under initiatives such as property management planning and the new FarmBis initiative. Policy issues to be debated might include the costs and benefits of depopulation or subsidised population of remote areas in terms of environmental management and protection of resources, national

security, safety for those travelling in remote areas, and the costs of services to the reduced population associated with continuing profitable rangelands enterprises. As well the consequences of unemployment, demands for re-training, and needs for accommodation and services if people from remote areas move towards population centres in search of employment would need to be considered.

Policies which focused on alternative opportunities outside agriculture for the future security of the two third of producers who are currently marginally profitable or non profitable (McColl *et al.* 1997; p33) might also have greater prominence. Strategies could include support to develop local businesses which value add to rural products, developing skills to set up non-farm business activities in rural areas or to integrate with non-farm business opportunities up or down the marketing chain or to enhance prospects of off-farm employment opportunities. There is capacity in the re-establishment provisions (Farm Family Restart Scheme) of the Agriculture - Advancing Australia program to fund activities of this type when farming businesses are identified as no longer viable, but this does not recognise the need for many of the middle third in Australian agriculture to pursue these strategies as measures to manage risk and to compensate for the long term trend for decline in agricultural returns.

The profitability of large businesses will continue to depend on productivity gains based largely on R&D, which is the major item of expenditure in current government support to agriculture. Hence there needs to be debate about the best allocation of government expenditure to support the activities of rural people – between R&D support for continuing agricultural activities, to encourage adjustment by diversification partly out of agriculture, or for those leaving the sector altogether. Similarly drought policies would, in addressing the issue of risk management, need to include consideration of the ways in which risk might be managed by diversifying income earning activities on and off the property. Implementation of such policies is likely to depend on genuine integrated effort between all levels of government and the community, and on the ability to develop ***people-people collaboration*** rather than a unidimensional emphasis on self reliance which relates to ***people-thing interactions***.

In this paper I have not addressed in detail the plethora of policies relating to the rangelands, including policies for natural heritage, local government, catchment planning, land rights, and provision of basic services such as education and health. The multiplicity of policies under development which are relevant to the relatively small number of geographically dispersed people in the rangelands suggests they must be seriously challenged to keep up with policy processes, and impossibly challenged in terms of meaningful participation. A policy framework which was integrated around the issues of the future human activities in the rangelands could provide a welcome improvement by streamlining processes and dealing up front with current policy inconsistencies.

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CITY IMPERATIVES - A STAKEHOLDER'S OBSERVATIONS

Ian M. Buck
Queensland Agribusiness Adviser
Westpac Banking Corporation
Level 1, 18 Tank Street, Brisbane.

Introduction

Do city people really care about agriculture and its importance both economically and socially? Is the city dweller of the 1990's concerned with anything outside their immediate needs of housing, employment entertainment and can we blame our city cousins for their ignorance?

We in Australian agriculture have not done a good job collectively in communicating the issues to the greater population who reside in closely settled city environments. Agriculture has not developed appropriate alliances with relevant groups (The Influencers) to deliver the message that agriculture is a vital cog in the economic flywheel that drives the Australian economy.

Queensland covers an area of approx. 1.7 million square kilometers and is host to a diverse range of climatic conditions from wet to dry tropics and to cool temperate climates. This alone makes Queensland unique in terms of agricultural diversity. Agriculture in Queensland employs approximately 34 000 people either directly or in related services, and the contribution agriculture makes to the Queensland economy is in the order of $6.0 billion - which represents approximately 19% of the Australian total Gross Value. When you consider the multiplier effect of every dollar generated from agricultural production, the significance of the sector to our economy becomes more apparent. Is the city population aware of this?

Agriculture is dogged by a boom - bust cycle of events in two key areas: climate; and commodity price cycle. When climatic influences are at their worst the message to the populace is based on images of destitution, parched landscapes, dying livestock and crops, financially stressed landholders, and social fragmentation in rural communities. All these images are based on striking at the emotive nerve of the city dweller. In boom times the images portrayed are about wealth which becomes the catalyst for unrealistic views and expectations of the rural sector. At all times through the cyclical pattern the city person is not affected in any material way, yet, due in part to selective presentation and retention of images from the bush by the media, landholders are being questioned by society as to their suitability to manage the land.

Issues

What is Australia's vision for agriculture? Unlike many older civilisations Australia has not endured a period of famine which partly would explain why city people are generally dislocated from their sources of food. Subconsciously the need for a long term plan for agriculture is low on the priority list for the political and producer body incumbents because the greater population that is the city people represent a large number of votes. They have the political muscle and politicians are not interested in long term issues which may rock the short term boat ride. However the reality today is that unless Australia develops a vision for agriculture and a long term plan for the future our rural sectors will continually face mounting pressure from a range of fronts, and in particular the needs of the increasing city populations.

Economic sustainability

I believe that there are substantial areas of farming and grazing country which are unsustainable in their present form, given the returns from present land use options. Terms of trade for agriculture have been declining for decades. Input costs are maintaining an upward climb despite improved technology while prices received have remained relatively static in real terms for most dryland farming and grazing sectors. Political and market forces and changing consumer habits are having a negative impact on the economic sustainability of many traditional farming systems.

As all land is part of the national asset base, the questions must then be raised as to. What alternative land use is open to the large tracts of dryland country that will provide a positive contribution to the economy and at the same time satisfy the criteria of economic and environmental sustainability - if these are the key criteria upon which we will be judged also from a stakeholders perspective, will the alternative land use be financially bankable?

Environmental sustainability

This is an integral component of economic sustainability. What do people really want? The responsible rural landholders management approach is to leave the environment in a better condition than it was when they took on their role. The importance of adopting management practices that will contribute to achieving this goal is gaining increased recognition from many stakeholders.

I believe it won't be too far into the future where financiers will require detailed management plans which outline the physical management processes that will contribute to environmental sustainability as a prerequisite, along with the normal financial management criteria, before a proposal will be considered. Some institutions are already asking for

property management plans with any request for finance. In my organisation's case we are required to undertake an environmental risk assessment for rural lending. It is a very important issue when land is used as security for a loan.

Land degradation reduces the value of the resource. As financial pressures increase in line with reduced income more pressure is placed on the same given area of land. With the removal of every centimetre of topsoil, productive capacity declines markedly for much of our rangelands. Recovery from extreme drought is slower making the country more vulnerable to further degradation. The issue of economic sustainability lies with environmental sustainability. Several years ago I was involved in a scheme to address this issue. The South West Strategy has attempted to grapple with the complexities of sustainability and redressing the land degradation issue. I believe the concept has merit. The wider community needs to be informed of the long-term benefits. Results from schemes such as this will not be available in the short term and this poses a problem with the interest groups that want to see short term results to boost their profiles.

An issue I believe worthy of further exploration is that of land banking in rangeland areas which have been exposed to both economic and environmental degradation. The concept would be to enlarge the land area for management to implement strategies that will result in the dual outcomes of economic and environmental sustainability.

To engender the support of the city person we need to be viewed as licensed custodians of a national asset, with the understanding that the asset will be managed for the future generations. To gain this respect we in agriculture will need to communicate effectively to a wide audience of stakeholders, from politicians to the suburbs. Above all we need a vision, a goal and some long-term plans which will be supported by all stakeholders.

Our land and our people are our best assets. Poor communication, or communication based on narrow self interest issues, will only exacerbate the problems and make it all the harder for the stakeholders to achieve the desired outcome.

The desired outcome from my perspective, would be for the city person to understand the importance of agriculture to both society and the economy and to be supportive of a vision and plan that would see us all collectively striving towards our goal of long term economic and environmental sustainability for our national asset.

MINING AND THE DEVELOPMENT OF LASTING RELATIONSHIPS

Barrie Mathias
Director of Operations, Queensland Mining Council

Thank you for inviting me to address this year's symposium on a subject which I believe is often talked about and rarely practiced namely, effective communication.

I have spent 35 years working in the bush for the Queensland mining industry as a geologist. The lively history of Australian mining tells of adventure, heroism, hard work and risk taking. A similar history could be written about our agricultural industries. Such stories that once excited young Australians have now been transformed into today's classrooms into cautionary tales of polluted environments, of sacred sites destroyed, and societies demoralised or even devastated.

Part of the problem is that mining to most Australians is invisible and like farming has lost much of its romance. Mines occupy but a tiny fragment of the continent (about 0.02%) yet mined lands are subjected to close environmental scrutiny.

For almost 200 years over 80% of Australia's exports have come either from what we mine or what we grow. Today mining produces 52% of Australia's exports with a value close to $40b. Of all the changes that have occurred in Australia over the last 200 years one thing has remained - that is the overwhelming importance to our economy and our quality of life of our great primary industries.

One does not have to be a Rhodes scholar to establish that land access is the lifeblood of the industry and that a successful mining industry is the key to a successful Australia. But to many Australians this must appear to be quite irrelevant. So irrelevant in fact that currently 27% of Australia is out of bounds to exploration and/or mining - an area the size of South Africa. Various interest groups are now calling for land access restrictions to another 22% including the Nullarbor Plain, the Simpson Desert, Cape York Peninsula, Arnhem Land and Shark Bay. If these interest groups have their way 50% of Australia could be off limits to exploration and mining within 10 years. Locking up vast tracks of land without the benefit of thorough geological examination is both irresponsible and foolhardy, and further confirms the theory that there is no correlation between intelligence and common sense.

The quality of life we can offer this generation and the inheritance which we pass on to future generations depends on the capacity to integrate economic development, social impacts and the protection of the environment. No responsible person wants development at any cost and we do need adequate safeguards.

As a nation we must seek to integrate environmental and economic goals and not treat them as irreconcilable opposites. We have much to thank the environmental movement for, but they are now in very real danger of snatching defeat from the jaws of victory. People forget that for any society to provide for its citizens the life they would like - property, welfare, education and health services - requires wealth to be created by producers in the economy. We have a clear duty to pass on to succeeding generations a healthy and safe environment and the best examples of our cultural, historical and natural heritage.

But this is not all that succeeding generations are entitled to expect of us. Our heritage should also include an accumulation of community wealth generated by economic growth. Succeeding generations should expect to inherit knowledge, gained through education and technological development, and physical infrastructures which include hospitals, schools, transport facilities and other community resources. They're also entitled to a thriving economy - not one saddled with high levels of debt which they, not us, will have to repay.

For the first time in Australia's modern history we have the dubious distinction of being likely to pass on to the next generation a standard of living lower than that which the current generation enjoys. Many of the problems facing the miners, the cattlemen, the foresters the graziers and the farmers are common: land access, security of land tenure, taxes and charges, political mismanagement, lack of infrastructures and transport to name but a few. Our industries have taken what is largely idle and worthless rock and soil to produce food, fibres, fuel, metals and minerals on which most of this country's industry, commerce and trade is based. Despite this we have common foes, based on ignorance, apathy and mismanagement. Our industries are vital, innovative and competitive. We use science and technology and we lead the world. Despite this all we generate from the bulk of Australian society is apathy, abuse, greed, political interference, discriminatory taxes and charges and more rules and regulations.

No doubt many of you will be discounting my views as the product of self-interest. Why? Surely Aboriginals are entitled to speak about native title, teachers about education and farmers about farming. The perception is that miners are naturally and peculiarly venal and their citizenship, even their humanity, is subsumed by their lust for minerals - particularly gold. Art, culture and heritage may be the flowers of our society but mining and farming are the roots.

Australia needs to come to terms with the dilemma that 80% of its wealth (that is from farms and mines) is produced by people whose democratic clout has shrunk through marginal to negative. This is despite the fact that this year and next year will see capital investment in Queensland alone of between $5b and $7b for mining and energy related projects that is twelve of the thirteen biggest projects planned for this State.

But there is more to measuring human progress and development than by the size of the GDP or the level of economic investment. Many of us would measure it by how we are improving as a society. Business/industry is capable of almost anything but if it comes with no moral sympathy or honourable code of behaviour then God help us.

Over the last two decades the mining industry has made a determined effort to demonstrate recognition of environmental and social concerns as integral elements of its business. Today's society not only has a close interest in the impacts which industrial developments may have on the environment but it is also increasingly demanding a say in the decision making processes. Greater emphasis is now being placed on communication and consultation between the developers of major industrial projects and the communities who may be affected by them with the objective of establishing productive partnerships, avoiding conflict and achieving outcomes which are beneficial to both the developer and the community.

What is best practise today becomes routine tomorrow as industry, governments and community must continually strive for better more efficient and more effective ways to do things. We must all support changes which lead to better outcomes. The Queensland Mining Council stresses the need for development of a "consultation culture" from the highest levels of company management. We also stress the need for companies to provide adequate resources in time, funds and personnel for comprehensive and effective consultation.

The mining industry has long been a pacesetter in the undertaking of the provision of social and community infrastructure and services - activities that in other settings would be the role of government. However, today's conditions present a new challenge. There is today increased expectations of mining companies even providing for community needs including support of local businesses. The expectations in these communities that mining will bring an easy and comfortable life style for all of us, however, is an unrealistic expectation that the mining industry is finding increasingly difficult to address.

The bigger challenge now is not a technical one, rather it lies in the development of interactive and lasting relationships with communities, regions and countries in which the industry operates. There is no doubt that the long term success for mining companies will depend on their ability to align the interest of local communities with their own in areas where they wish to operate and to develop mines within these communities on the basis of mature and respectful partnerships. To achieve this companies must be sensitive to the life styles and value systems of those affected by mining and play a more active part in ensuring that a fair proportion of benefits of their activities flow to those most directly affected. An improved climate of trust requires an overall reduction of uncertainty and anxiety. Similarly, the stress associated with the competition for resources provokes defensive politics, undermines our sense of security and encourages all to withdraw from concern for others. Developing partnerships with local communities, so that all can reap the benefits of enhanced trust and loyalty, is now the challenge facing the mining industry.

Governments must understand this as they look to increase their take - "The most successful extractive industry in the country". Relentlessly, the industry is drawn into the debate on evolving concepts of business morality and appropriate and honourable codes of behaviour and judged by its perceived contribution towards an improved society. The story of the minerals industry in the last couple of decades can be interpreted as the evolution from a primarily economically orientated industry to an environmentally aware one, and finally albeit embryonicly to a socially aware industry that is articulating collaborative strategies of choice within a framework of mutual commitment, and is in partnership with affected communities for the realisation of our collective societal aspirations.

It is a story of change from an industry that at one time was almost paralysed by defensive denial of community concerns, to one that now looks towards the new millennium with maturity and with the ability to cope with the new understanding of how mining can operate with support, respect and trust as a two-way street with the community. We see this as a key ingredient necessary for a prosperous long-term future. Clearly the target - the vision - is for a clear social benefit to be associated with each mine in Australia and elsewhere that clearly and demonstratively interweaves the development of the mine with the identified aspirations, meanings and values of the local regional and indeed even the national community.

Clearly the target for the mining industry is to be seen as a significant contributor to an improved society. To fully reflect an industry that has come of age in the modern era, miners today must earn their licence to operate from the communities in which they work. More than ever communities and their governments judge the industry by the standard of its environmental management, its safety performance, its risk management ability and its willingness to consult openly with all stakeholders.

Industry, any industry, can no longer assume communities will accept development. More and more communities are placing environmental and social impact concerns along with, or in some cases even above, the economic benefits mining brings.

There is the old Chinese proverb says "teach me and I will forget, show me and I may remember, involve me and I will understand". Perhaps we have all been guilty of too much telling and not enough involvement. We all have a responsibility to ensure that the State's resources are developed profitable and in a socially and environmentally responsible way. It's a challenge we all face. This country's survival depends on it.

RANGELAND SURVIVAL. THE PEOPLE. THE BUSH.

Roger G. Landsberg
Trafalgar Station, PO Box 41, Charters Towers, QLD 4820.
Ph: 077 876677 Fax: 077 876462 Email: trafalgar@ultra.net.au

Introduction

The bush is hurting. Its people are hurting as a result of dependence on world export commodity prices, the global economy and lack of electoral clout. Declining terms of trade have been particularly severe in the wool and meat industries, which are the agricultural backbone of the rangelands. As a result, rural debt is massive and bankruptcies are common. Years of recurring dry seasons and inappropriate management practices have compounded the social problems and threatened the long-term productive capacity of the natural resource. This is not the fault of farmers alone. The price of cheap food in the developed western world is degraded land. The increased media profile of the bush and its problems has increased pressure from the community at large for a more regulated approach to land, workforce and animal management.

In addition, the political time bomb of WIK and aboriginal land rights combined with the overriding rights of miners has threatened the very fabric of the rural dwellers reason for being. The male suicide rate in the bush is one of the highest in Australia. Domestic violence, once unheard of, is now a serious issue. Family breakups are now commonplace, due to financial and social pressures. Bush people are confronted with all these problems, yet generally speaking, are slow to accept change. Indeed, they will go to extraordinary lengths to defend the *status quo*. Why do we continue to live out here and why don't we change?

Lifestyle

The answer is simply lifestyle. In most cases, it is all we know. As a community sector, the rural industry has one of the lowest levels of education with 62% not having sought any post secondary studies. In most cases, these people would have returned to the family property and have limited experience or knowledge of other enterprises. Their knowledge of general history is limited and their opinions are usually based on local experience or how they would like their world to be. This tends to be passed to successive generations and becomes their "values system". When this is challenged, people become reactionary rather than analytical.

Even though rural enterprises are small businesses most are not managed as businesses due to lack of training or education or the willingness to spend "time in the office." For example, in the beef industry in Queensland, the average return on capital is less than 1%. Most are negative. If we were serious about being business people we would have all sold out years ago. We live on the land because we like to. We love the diversity of the work, the challenges, the land itself, but most of all, the independence. Why else would people put themselves into a lifetime of debt if it wasn't to buy themselves a job? Unfortunately, people are too busy working and surviving to be able to take some time to reflect on their situations and ask themselves, "How am I doing?"

Land management

The answer would be; "Generally, pretty poorly." Apart from the social and economic statistics above, the Tothill and Gillies Report (1992) found that up to 60% of the Northern Australian rangelands were in a degraded or deteriorating condition. The majority of these areas were in North Queensland. This is because there are more properties than in the Northern Territory and the Kimberly, the seasons are more variable and there are no enforced regulatory requirements for land condition assessment. The usual response to hard economic times is to increase herd numbers. This is unsustainable in the medium to long term, particularly in unrelenting poor seasons.

Past and present governments and industry organisations have not helped the land degradation issue. When confronted with drought, the usual response to industry demands is for "band-aid measures" like freight and fodder rebates and/or social security payments. This promotes bad management and fuels the dependency or "hand out" mentality. Industry leadership is driven by the majority of members who tend to see only short-term solutions. This is not surprising as they are driven by short term economic problems such as interest and loan redemption, education costs, and property running costs. Most are aware of their plight but cannot see the solution, so tend to live in hope that prices will improve, the government will do something or "it has to rain this year". James Baldwin summed it up when he said "Nothing is more desirable than to be released from an infliction, but nothing is more frightening than to be divested of a crutch."

Planning for a future

I have a belief that management and planning are imperative to survival in the rangelands. From a production angle, careful management and use of our natural resources combined with more intense herd management and marketing will improve our viability and reverse land degradation.

From data collected on our own operation at Trafalgar, Dr Andrew Ash produced some interesting information from the forage production model GRASP (Day *et al.* 1997). It demonstrated that perennial basal area has increased by 100%

during the past ten years while maintaining profitability (Figures 1, 2 and 3). This has been during the worst dry seasons in recorded history and with reduced herd numbers (Landsberg *et al.* 1997)

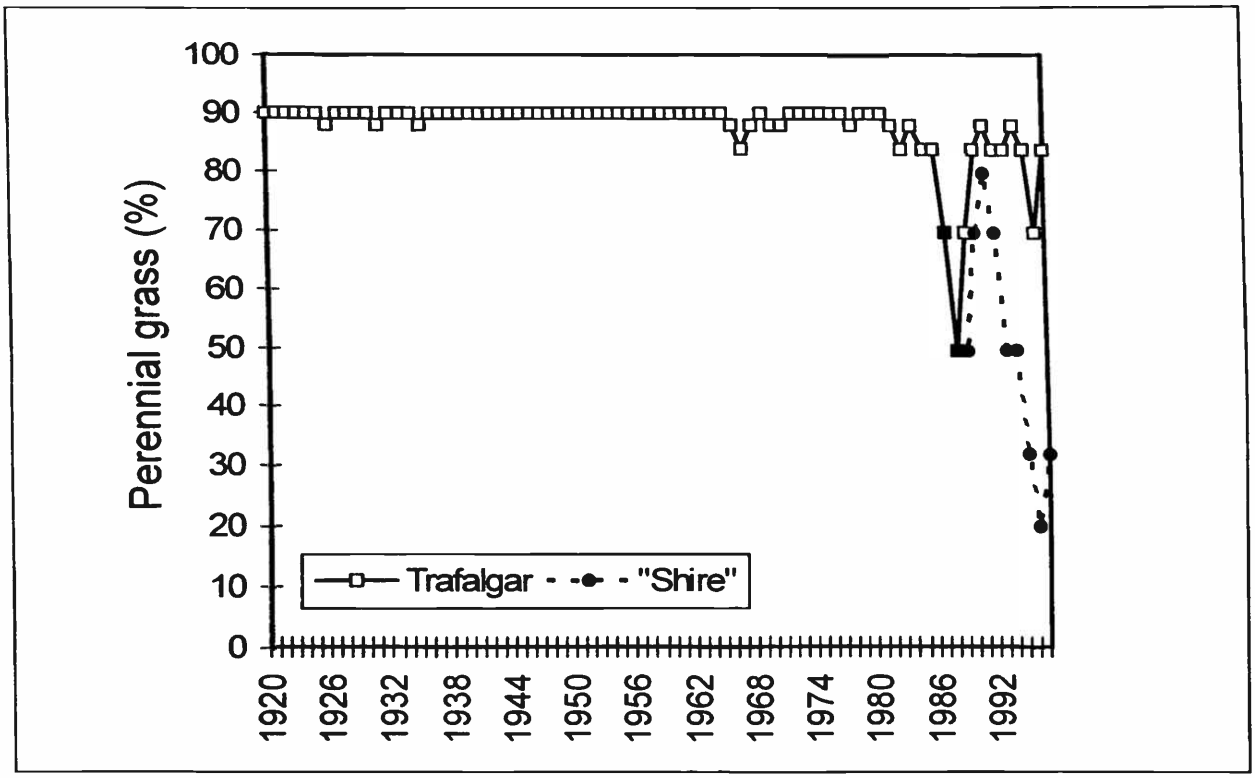

Figure 1. Percent of perennial grass on Trafalgar compared to the same Shire average from 1920 to the present.

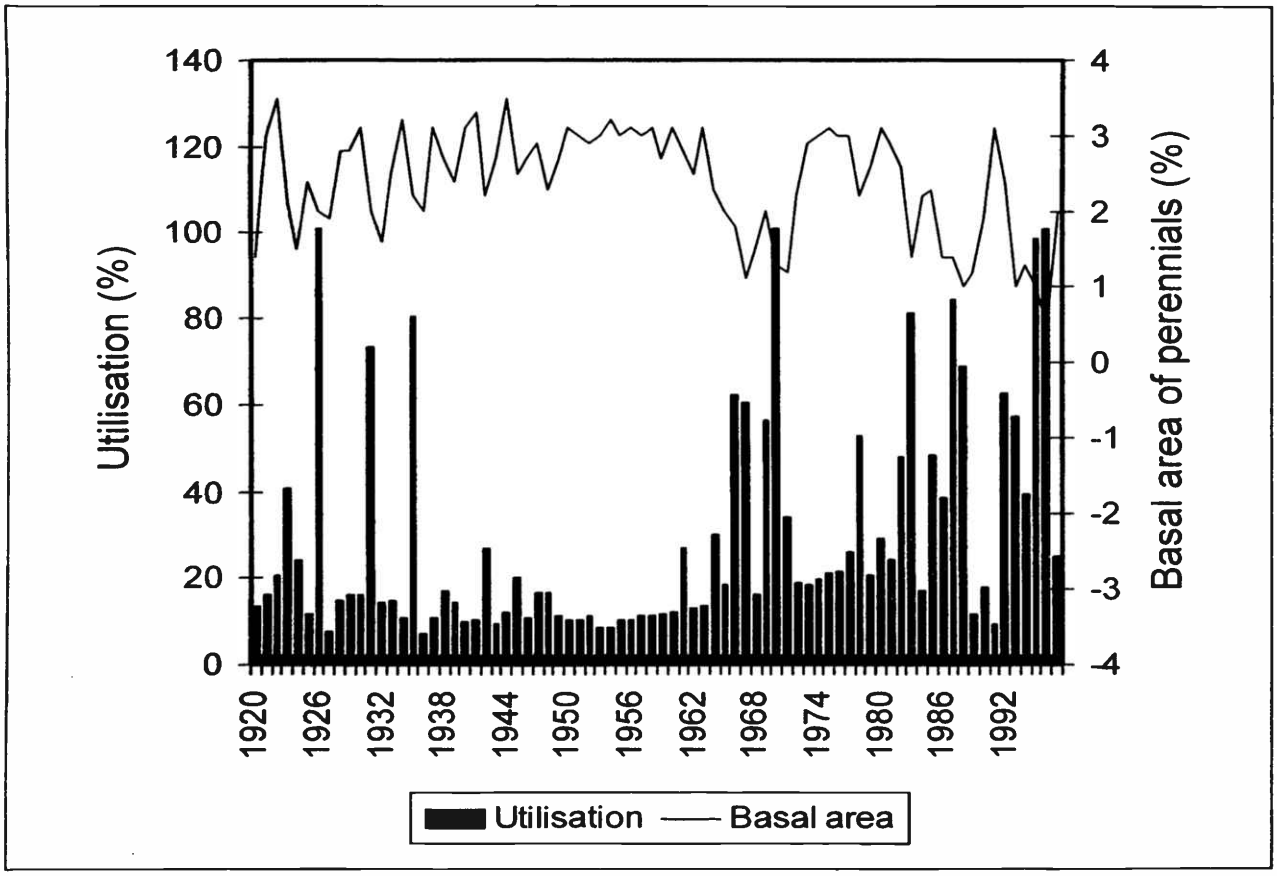

Figure 2. The relationship between basal area and utilisation on Trafalgar.

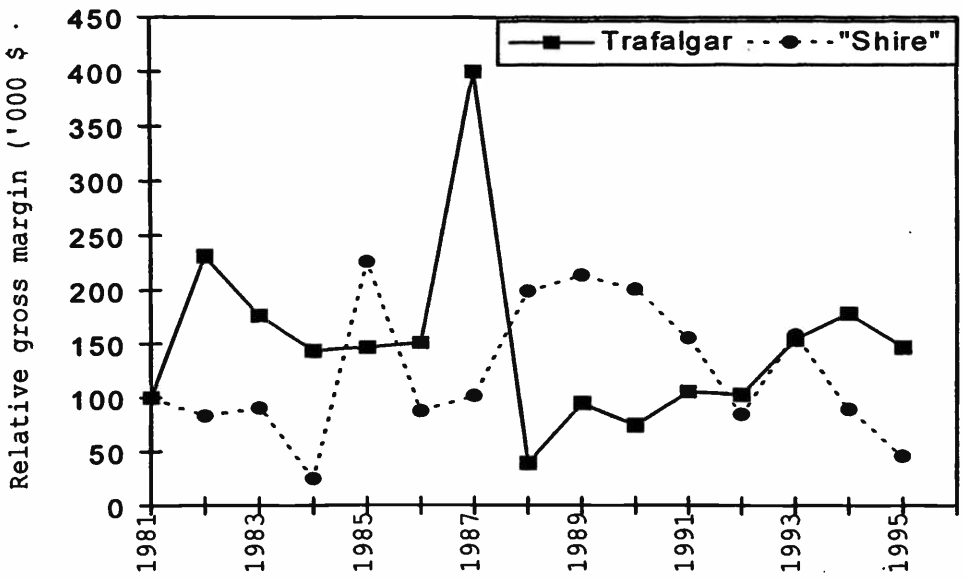

Figure 3. Mean relative gross margins Trafalgar and the Shire.

This requires a great deal of careful herd and pasture management and strategic marketing strategies. This in itself is another problem. The information age gives an illusion of efficiency and provides the information seeker with a virtual tidal wave of information. A lot of people in the bush are not equipped to deal with this vast array of information, become more confused and tend to disregard it, as it usually challenges their comfort zone. State agricultural departments are now putting more resources into Property Management Planning, Personal Development and Resource Management courses, but the uptake of these courses is slow. Once again it is that mindset problem. People have problems believing that they need to learn new skills. They tend to defer to "it will be right when it rains" or "the bloody government better do something soon" answer.

Managing change

Providing the average producer with skills to manage or even effect change is a challenge. A more difficult problem is to provide people with the skills to manage the rate of change. As an example, let us look at the Live Export Trade in North Queensland. During the last five years it has grown from a small operation to a massive export business, underpinning the northern cattle industry price structure. It has changed the industry to an extent that a large number of individual producers rely on the live export industry as their major source of income. In a matter of two weeks, stemming from the Asian currency crisis, the short to medium term prospects for the industry are grim. For people who are locked into single market trading, the future would not look rosy, particularly those who invested heavily in land in the Kimberly and the Northern Territory. Producers are not the only ones struggling to keep up with the rate of change. Governments, research organisations, academics, and particularly our advisors in the rural economics and law fields, tend to deliver very mixed messages.

"Survival of the fittest" is an old saying and one that is starting to have more relevance in Australia's society today. The successful survivors will be those who are the most astute assessors of change and move to accommodate and adapt to it before their peers.

Cooperating for change

Banks and financial institutions are also going to have to take a more long-term approach to business in the bush. Applications for loans should not only be accompanied by the obligatory cash flow analyses, but include a property management plan. Many producers are going to consider this as another impost or threat, but it will help ensure that they have a future. I tend to think of it as another form of education. The bank manager and the producer could both learn something about resource management and marketing.

Industry leaders and producers must be proactive in developing partnerships with a range of other stakeholders to formulate policy initiatives to ensure the long-term survival of the rangelands and its people. This will mean breaking some old mindsets and "getting into bed" with some old adversaries, but it will have to happen. This country is now far too democratic to hope that legislation will solve everything. Two issues here would be resource issues like the tree clearing debate and the massive issue of WIK and Aboriginal reconciliation.

I feel that if we haven't learnt from the mistakes in Southern and Western Australia in relation to clearing and land degradation issues, then there is little hope for us as an agricultural nation. There are too many conservation farmers around, utilising techniques that can find the balance between conservation and production, to keep deferring the hard decisions. I've stated that legislation for specific land management practices would not work and I believe it would not be effective in convincing people to change for the right reasons.

Effective change drivers would be:

- Positive market premiums for sustainably produced commodities. The present system of price discounts is not a stimulant for management change or a paradigm shift.
- Utilising the "soft stick approach." e.g. the bank manager requiring property plans, strong guidelines attached to NHT and other similar funded project based schemes, peer pressure within catchment groups and proactive, self regulation led by industry organisations.
- Property Build-Up schemes. Most properties today are unviable due to insufficient living area. Schemes such as the South West Strategy in S/W QLD are allowing people to leave the land with dignity and providing additional area for neighbours.
- A system of financial assistance measures that replace "drought subsidies." Drought can be managed far more effectively if conservative property management is being practiced before drought occurs. The time for assistance is during the transition between "traditional" and "sustainable" management.

Likewise, WIK. I don't believe the Prime Minister's Ten Point plan can work. One can argue discrimination, immorality and complexity and I believe it is all those, but the simple fact of the matter is, it just makes matters worse. It will divide the nation and the lawyers are the only winners.

Like others in the rural community, I have a problem coming to grips with the fact that I may have to share my property, that for 85 years has been in my family. I have an understanding what the Aborigines mean by a cultural attachment to the land, as I feel exactly the same way. However, I also believe in a united Australian nation and compromises are going to have to be made on both sides. The issues of land title and use are far too complex for a blanket approach and local negotiation is the best way to go. After all, most property owners already let pig catchers and kangaroo shooters on to their properties and have guidelines in place. Aborigines are asking for the same thing and an acknowledgment that they were the traditional owners. I don't believe that they want to interfere with property management.

Industry organisations really do have to come to grips with that fact and instead of wasting resources and energy in fighting what really is the inevitable, sit down and talk. I think they might be surprised that the middle ground is really very easy to find. The problem is keeping the extremists on both sides quiet.

Negotiation, tolerance and patience are the three main ingredients to coexistence and making a living from our natural resource. I am hopeful that I am going to survive long enough to learn these skills.

Knowledge

There is a fourth quality that is very important to our survival in the rangelands - knowledge. Rutherford D. Rogers said, "We are drowning in information and starving for knowledge." The emphasis in the developed western world and the developing nations in Asia, is to put major research resources into high tech industries that create high economic return. Technological and scientific development is increasingly removing the human natural culling processes like disease, natural disaster and world wars. Our lifetimes are being extended and the global population is increasing at a frightening rate. As most of the people in this room are aware, research into how, what, and who are going to feed, clothe and house this burgeoning population is not balanced to the research and development causing the problem.

I've discussed during the course of this paper the problems associated at a producer level with regard to the uptake of knowledge and management techniques. Presently this knowledge is largely theoretical, based predominately on small plot research and left to a few innovative producers to develop and improve on past management mistakes. As we break down the cultural, social, economic and traditional barriers to change and people actively start seeking solutions, will we have the answers for them?

Conclusion

Rural Australia is at the threshold of a new age. The way we manage the land, the way we do business, even the way we think is not appropriate for survival in the future. I have spent the last ten years of my life discovering new ways of management, building my knowledge base and assisting to bring about attitudinal change in the bush. I have discovered that you can't work against nature, it is far more successful to work with her. I believe that rural

I don't believe for a minute that there will be autonomy on all issues. However, decisions based on knowledge and derived from negotiation, patience and tolerance, are far more empowering than legislation based on ignorance and derived from vested interest, closed minds and greed.

I know this is probably an unreal expectation. However, solutions come from within well informed, open minded people who are accepting of change. Gatherings and discussions like this today, help to clarify and provide understanding of the issues.

As rural Australia enters this new age, it will require the concerted efforts of enthusiastic people working together for a common goal - the health of the rangelands, harmony and an acceptable lifestyle for the people who live as a part of them. All we need is the energy.

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PRESERVING THE SOCIAL FABRIC OF RANGELAND COMMUNITIES

J.H.Holmes
Department of Geographical Sciences and Planning, University of Queensland

Always thinly stretched, the social fabric of rangeland communities is in danger of unraveling under the succession of stresses and tensions currently being experienced. Traditionally the strength of this fabric has been based upon two critical human resources; namely the strong sense of personal identity and identification with a distinctive, challenging way of life, held particularly by the pastoral families, and secondly, the community bonds and shared loyalties tying together both rangeland townsfolk and pastoralists. In many ways there are similarities with the distinctive cultural identities and group bonds which exist in traditional Aboriginal societies, also tied to a strong sense of involvement with the land.

The values of pastoralists have been documented in various studies. See for example Table 1 (Holmes and Day 1995, and references therein).

A postal survey of 67 South Australian pastoralists reveals that they comprise a cohesive reference group with a strong sense of identity and self-worth. They closely identify with their distinctive way-of-life and it's equally distinctive (and challenging) environment. They are very conscious of pivotal decisions towards sustainable management. Their strong orientation towards intrinsic, expressive and social values provides partial compensation for continuing economic and social hardships. Above all they place high value on their independence, and they regard intervention by conservationists, urban interests, Aboriginal interests and governments as presenting a greater threat to their future than does prospective economic decline (Holmes and Day 1995).

Table 1. Pastoralism as a way of life: values, preferences and perceived outcomes for South Australian pastoralists compared with 1983 values of south-west Queensland pastoralists

Percentage of Responses						Index of well-being		
Statement	Strongly agree	Mostly agree	Neutral or Not sure	Mostly disagree	Strongly disagree	S.A. 1993	W Qld 1983	Difference
I find the landscape unpleasant and uninteresting	0.0	0.0	0.0	13.4	86.6	96.7	76.8	19.9
Independence is something I value highly	74.6	25.4	0.0	0.0	0.0	93.7	80.3	13.4
I like working with livestock	65.7	28.4	6.0	0.0	0.0	89.9	77.7	12.2
I would move to the city if I had the chance	1.5	3.0	6.0	28.4	61.2	86.2	76.2	10.0
I like the vast distances and sense of open space	50.7	38.8	6.0	4.5	0.0	84.0	75.8	8.2
Living out here is a great way to raise a family	47.8	3.0	7.5	6.0	1.5	81.0	76.6	4.4
Our living conditions are much better now than 10 years ago	30.3	33.3	13.6	15.2	7.6	65.9	56.4	9.5
Often it's hard to put up with the dust, heat and flies	6.1	25.8	16.7	29.4	12.1	56.4	44.6	11.8
Our children miss out on many opportunities available to children in towns	39.3	36.4	12.1	15.2	6.1	32.5	42.9	-10.4
Financially we are much worse off than we were 10 years ago	47.8	29.9	6.0	13.4	3.0	23.5	48.3	-24.8
I believe that the community at large fails to recognise the job we are doing	59.7	32.8	7.5	0.0	0.0	11.9	31.2	-19.3
The index of well being is calculated in the same manner, as is the index of agreement in Table 3. but with the agreement score subtracted from 100 where agreement indicates a lowered level of well being. Statements are ordered according to the level of well-being expresses by S.A pastoralists (Holmes and Day 1995).								

The second strong thread has been the link between pastoralists and the small, widely scattered towns which traditionally served the pastoral industry. Admittedly these links were strongly influenced by the pastoral holding. The influence of distance is suggested in the frequency of regular travel to the main service town.

Close links to towns were not strongly developed in areas of pastoral small holdings, most notably in western N.S.W. and central Queensland, but even in these areas pastoralists located more than 150 km from the nearest town revealed strong adaptions towards self-sufficiency and local community networks disengaged from the towns. Extreme disengagement from the large, absentee owned cattle stations, which have survived in their distinct form by incorporating the most basic urban functions within rural production unit. See later. Also, of course, the more affluent pastoral families have a long-standing non-local orientation with strong ties to coastal cities.

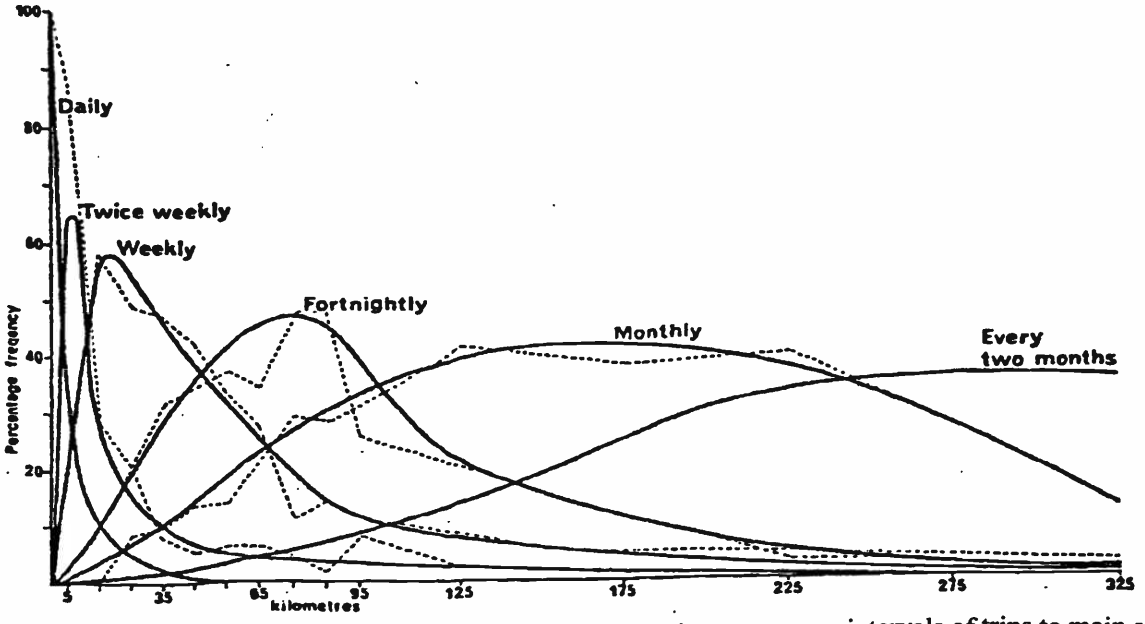

Figure 1. Interpolation and smoothing of curves indicating recurrence intervals of trips to main service centre according to distance from centre.

Unravelling the social fabric

Although far removed from the heart of the action, it is the more remote sparsely settled regions in western notions which have been most powerfully affected by the increasing tempo of socio-economic changes which have been occurring within their societies. Their relative lack of success in satisfying long-standing goals of economic development have facilitated a rapid shift in natural priorities for these lands– priorities which may not necessarily fit with the preferences and capabilities of existing rangeland dwellers.

The impact of these changes in the social fabric can be briefly summarised under the following headings: economic, demographic, contact networks, community structures and value orientations.

Economic change

As in other affluent nations Australia's rural lands are undergoing a major re-evaluation, with agriculture's former dominance being selectively displaced by diverse values and uses. This is part of wider trend by which less productive lands, surplus to requirement for commodity outputs, are increasing in demand for their amenity values, broadly defined as values directly meeting human needs and wants. In the rangelands these new values embrace tourism, recreation, biodiversity preservation and Aboriginal traditional and contemporary uses.

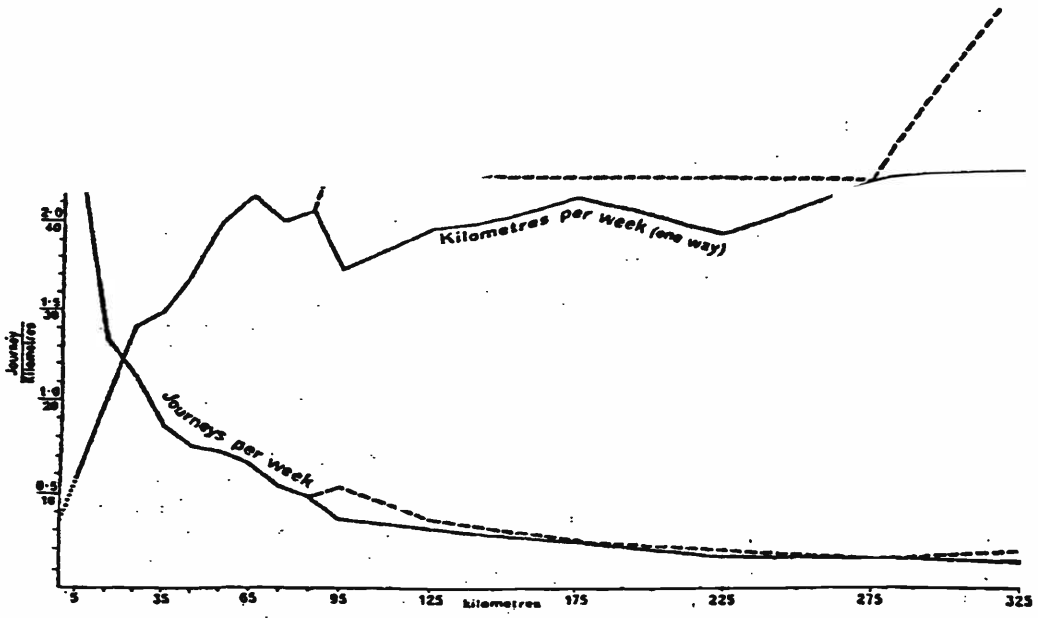

Figure 2. Average journeys per week and distance travelled on regular trips to main service centre according to distance from centre.

In western Europe this switch in rural resource values and in public policies has been interpreted as the transition from a productionist to a post-productionist era (Commins 1990). This transition offers new opportunities in the valuation and use of our rangelands, but it also poses major challenges. The greatest of these challenges is suggested in the paradoxical statement..."more value but less cash". As a nation Australia is placing higher value on its rangelands in pursuit of national goals, such as Aboriginal self-determination, preservation of biodiversity, sustainable land use and satisfying emerging lifestyle values, but these new values do not readily translate into income streams for pastoral landholders and rangeland communities. These are two distinct but related structural problems, namely the ***shift from market to non-market values and the geographical transfer of value*** (Holmes 1994).

The shift towards non-market values

In more accessible and more populated areas the new amenity values are highly marketable, attracting new streams of people, capital investment and income, in a process commonly described in Europe as 'consumption of the countryside'. The strongest growth impulses are being experienced in the less productive agricultural regions with high amenity values, such as the Dordogne in France, Devon and Cornwall in England, and also the most attractive rangeland areas in Arizona, new Mexico, Colorado, and other western states as well as attractive coastal hinterlands in the Australian ecumene. However, for Australian rangelands this new emphasis on amenity value does not readily translate into new streams of either people, capital or income. For both environmental and locational reasons, Australia's rangelands generally lack the capacity to attract a new flow of people willing to invest their money in the 'consumption of the countryside'.

As a result most of the new amenity values now attached to Australia's rangelands are not market-oriented, and their income-earning capability is further constrained because current institutional structures, federal, state, regional and local, are not geared towards incorporating these amenity values into the market economy.

The geographical transfer of value

The prospects are not much better for resources yielding marketable outputs. When combined with technological advances, the new emphasis on amenity and lifestyle values enables a functional and geographical disconnection of income streams from the resource locale. Even in the utilisation of immobile assets, the demographic and economic benefits are increasingly transferred to the major population centres. One striking example is the growing popularity of 4WD and bus-safari tourism, generating large expenditures in major population centres but with negligible economic benefits to outback locations. Another example is the trend towards capital-intensive mining operations, utilizing a small fly-in, fly-out workforce, disconnected from the local economy but closely tied to distant metropolitan sources of labour, skills, equipment, management and other services. There are many other examples of the incapacity of remote regions to capitalise on economic opportunities generated by local resources (Holmes 1997).

Demographic change

Australia's rangelands currently reveal extreme variability in population trends. There are localised areas of population growth, sometimes rapid growth, associated with developments in mining, tourism and defence. Also most settlements along major transport corridors are either stable or growing. Aboriginal populations also continue their steady pace of growth.

Localised growth can be contrasted with the prolonged, persistent decline in pastoral workforce in towns dependent on pastoralism.

Australian rural industries have been forced to engage in a continual process of structural change to achieve higher labour productivity. In more intensive forms of land use, these gains have largely been achieved by substituting capital and labour for land, with further intensification and higher yields per unit area. This route is not available to the extensive grazing economy with must increasing rely on minimising inputs of capital and labour, in a low-cost use of large tracts of land. There has been a continuing trend towards disemployment and even disinvestment, which was sharply accelerated in the 1960's with the unfortunate coincidence of drought, low wool prices and a new pastoral award which sharply increased labour costs. Most family properties were suddenly forced to pay off the one or two full-time hands previously employed, and to cut back on part-time workers. This retrenchment of the wage-earning sector led to an unprecedented rural population decline, generally between 30-50%, between 1966 and 1976 in most pastoral shires. There has been a further gradual decline related to property amalgamation to achieve the required size for viability. This now appears to be approaching 10,000 dry sheep equivalents per worker, and can be anticipated to go even higher. High labour productivity aided particularly by the trail bike and four-wheel drive, requires virtually no intensification or increase in capital inputs, and leads to further decline in the demand for local urban services.

Not surprisingly, western pastoral towns also experienced rapid population decline, averaging an unprecedented 16% in the 1966-71 period, 8% in the 1971-76 and 9% in 1976-81. The towns were hard hit by the out-migration of the rural wage earners many of whom had wives and families living on the towns, and by the loss of the lower-income rural workers and small land holders, who, unlike most graziers, were almost entirely locally oriented in their expenditure (Holmes 1984).

The impact of these divergent trends on the social fabric can be better understood if population change is linked to mobility behaviour. Again there are remarkably sharp, indeed extreme contrasts, with the two extremes, hypermobility and immobility both being indicative of either tattered or non-existent fabric. The more depressed pastoral sectors are characterised by near-pathological immobility. Some landholders have described themselves as 'prisoners of the land'. For many landholders mobility has been a one-way journey, as they become 'refugees' in towns distant from the rangelands. Of the traditionally more mobile sectors, the workforce on wages or contacts left some decades ago and most of the younger generation depart for secondary schooling and jobs elsewhere.

In pastoral terms many people in the small business sector also experience enforced immobility, being ill equipped to seek opportunities elsewhere. In marked contrast, the main growth sectors are characterised by hypermobility. In its extreme form is the fly-in-fly-out workforce, increasingly prevalent in mining operations, contributing almost nothing either to the regional economy or its social fabric. Single-purpose, enclave resorts and defence facilities also have extremely high mobility levels, as do very large absentee owned cattle stations where managers may stay a few years, stockmen even less, and the records for extended local residence are usually set by cooks and bookkeepers. In my 1993 survey of Barkly Tableland cattle stations, possibly only one non-Aboriginal worker could be described as a permanent resident and even he was unsure whether he really fitted that category!

Short term residency is also characteristic of most professional and semi-professional workers in multinational organisations in the public and private sectors; teachers, doctors, police, bank workers and so. These 'spiralists' usually stay only for the minimum allowable period (Montugue 1981).

Contact networks

A pivotal thread in the social fabric of the rangelands has been the strength of 'local' contact networks, linking together families experiencing extreme physical isolation. The role of two-way radio, the Flying Doctor network, the School of the Air and the operator-connected, privately erected party-line telephone networks have been well reported.

Also receiving attention is the extent to which these contact networks are unraveling as an outcome of changing communication technologies, tighter work schedules and progressive thinning of the population and settlement. Following a survey of pastoral families in northwest N.S.W., Epps (1996) concluded:".....

Unquestionably, technological improvements in electronic communication have, in particular, enhanced the potential for information distribution and interchange, especially in remote rural regions such as the study area. There is the distinct possibility that further developments, such as forms of electronic shopping, may reduce the need for some household members regularly to visit urban centres for the purpose of purchasing many essentials. This may appear to be beneficial through saving considerable time and associated costs. All facilities represent a reduction in the 'tyranny of distance', such an important factor in remote areas.

"However, despite this dwindling of the impact of long distances and enhanced communication potential, there has been a substantial reduction in work-related and social interaction between homesteads in the study region. Admittedly this is partially a function of reduced populations and also (due to limited labour resources) there is less flexibility in scheduling cooperative activities. However, often tasks tackled by a team can represent a more efficient utilisation of labour. Yet, because of the elimination of incidental contact via telephone party lines, radio schedules or use of transceivers, the opportunities for catalysing spontaneous cooperative work and social arrangements have also been reduced. The provision of entertainment and news via videos and satellite television further reduces the stimulus for social contact. It remains to be seen if, in the longer term, there is some return to the past levels of physical contact or whether the trend will continue towards the possible 'people-free virtual reality' in remote areas".

At least in the past there were opposing tendencies, with the emergence and strong thinking of special-purpose contact networks which replace the all-inclusive localised networks of the Flying Doctor and party-line contact systems. Among the most prominent networks are those tied to education, involving isolated parents as well as children, and the remarkably effective Isolated Children's Parents Associated. The recent emergence of Landcare groups may herald the arrival of purposeful local contact systems capable of meeting a variety of needs and aspirations.

Community structures

Diversification in resource values and in economic activity is a much-desired trend, yet to be fully realised. One beneficial outcome will be a greater diversity in the socioeconomic characteristics of rangeland communities. However, as the benefits of diversity are realised, it may well require a higher capacity to adapt than has been evidenced so far by all groups; both locals and new arrivals. There is ample potential for conflict between pastoralists, Aboriginals, tourist operators, recreationists (local and new-local), and other interest groups.

Particularly severe have been divisions between emerging Aboriginal and non-Aboriginal interests, with some outback towns sinking into a malaise as an outcome. These conflicts are all the more dysfunctional because of the small size and isolation if these communities, such that differences can become magnified and entrenched, leaving all groups socially deprived and acting as a severe impediment to future economic growth and change. This is particularly so because conflict is destructive of the amenity values on which future opportunities largely depend.

Value orientations

These conflicts are indicative of the highly divergent cultural backgrounds of the participants, and are revealed in their differing goals, needs and aspirations, which are synthesized within their distinctive value orientations. These divergent values can have an increasingly powerful influence in shaping not only the futures of local communities, but also in setting material priorities for future use of rangeland resources. It has been pointed out that the new resource values do not readily translate into income streams for private landholders and rangeland communities.

A further challenge arises because these new resource values are dependent upon a complex mix of value orientations held by diverse interest groups, rather than tied to commodity-related market values. Admittedly in the pastoral era political intervention in resource allocation was very strong, but the accepted *rationale* was commodity production. Few voices were ever raised against the proposition that resource allocation should supposedly be based on 'market forces' in which, inevitably, pastoralism took precedence. Particularly on the less productive pastoral lands, where non-pastoral values are often very high, this simplistic mode of resource allocation has disintegrated, to be replaced by uncertain, complex and often contradictory modes of political decision making, almost entirely shaped by the demands of a variety of interest-groups. Each group seeks to shape the resource-allocation agenda primarily in terms of its own distinctive value system, with little attention to other values. Furthermore, these value orientations are highly differentiated and not readily susceptible to achieving the multiple-value, multiple-use goals which underpinned the progressivism ideology, long an article of faith in resource policy on America's federal lands, nor the philosophy of 'interest group liberalism' which was its successor (Culhane 1981, Hess 1992).

A glance at the main interests now seeking a voice in shaping rangeland futures highlights this problem of achieving reconciliation between these diverse sets of values. The value-orientations of Aboriginal peoples, of pastoralists and of urban-based conservationists are among the most highly differentiated to be found within Australian society, yet they are all concerned about the ownership, management and use of the same set of rangeland resources. To these must be added a fourth, diffuse group of interests, concerned with travel, access, tourism and recreation. As already revealed in the conflicts about the use of American federal lands there are highly divergent value orientations within this 'interest group'.

Various authors have noted that resource-related conflicts are focused more on values than on facts (Vining and Ebreo 1991; Floyd 1993; Aslin 1994) and that in the course of the debate, discussion moves from the facts of the case towards matters of value (Frankena 1993). Korper *et al.* (1986) have distinguished values from interests, suggesting that value-based conflicts are more difficult to resolve than interest-based conflicts. Some researchers have expressed pessimism about resolving conflicts based on value differences. Michael and Anderson (1989) suggest that western societies have little capacity to reconcile disparate values (Holmes 1994).

The issues were discussed at length in a special issue *The Rangeland Journal* (16 (2) 1994) from which the above quote is taken. The distinctive value orientations of pastoralists were further examined by Holmes and Day (1995) who emphasised an increasingly formidable challenge to pastoral interest. This distinctive value orientation has for long proved highly adaptive in ensuring survival periods of economic and environmental stress, but may be less effective in meeting emerging challenges in which pastoralism has to adjust to a more complex decision context, in which other interest groups have values and goals markedly at variance with those held by pastoralists (Holmes and Day 1995).

The way forward: some signposts

While the economic and social problems confronting Australian rangeland communities are formidable, they are not intractable. Embedded within changing resource values are opportunities as well as problems. Identification of these changing values and their underlying causes is essential, in mitigating problems and capturing opportunities.

My thoughts on appropriate strategies to capture emerging economic opportunities have been presented at the previous conference of the Rangeland Society and expanded in a recent journal article (Holmes 1997), where I emphasize that appropriate strategies need to address systematically the two basis structural problems, namely the increasing significance of non-market resource values which do not readily yield income, and secondly the geographical transfer of value.

There is a considerable overlap between strategies for economic development and therefore social and cultural enhancement. This increasingly is so because of the growing ascendancy of amenity values over community values, in providing opportunities for growth and change in rangeland communities. This may well prove of critical importance to those communities, which recognise that enhancement of their social and cultural status will also yield very substantial economic benefits. Accordingly the term regional 'development" needs to be expanded to embrace social, cultural and environmental as well as economic goals.

An important question is the size and geographical scale of the community entities capable of taking initiatives in pursuit of well-directed long-term goals. Given their small size and limited human resources local communities lack the capacity to undertake this task, though they do have an important ongoing role in maintaining social settlement, through lobbying, fundraising and voluntary efforts in support of local settlement, whether in Landcare, education, recreation or provision of various facilities at the local level.

In Australia's rangelands, as in other sparsely settled regions in Canada and Alaska, there is increasing recognition that economic and social initiatives need to be pursued at the regional level. The reason for adopting a regionally-focused approach are clear. Many rangeland regions are experiencing rapid change in economic directions as well as in land use, land ownership. and tenure. With their small populations, limited infrastructure, and ongoing reliance on governmental intervention in service delivery, resource allocation (including land) and investment funding, the need for regional coordination is clearly evident.

Given the novelty of strategic regional planning, early planning exercises need to be regarded as learning experiences, involving trial and error. Since there are many commonalties, learning can be transferred from one region to another. However, successful transfer can only occur if contextual differences are also properly understood. It is important to recognise that new directions in resource uses are leading to highly differentiated regional responses in Australia's rangelands, a matter explored in two recent articles on regional directions in Australia's northern tropical savannas (Holmes 1996). Table 2, adapted from one of these articles identifies some common elements in regional restructuring, in order to accommodate post-productionist directions while differential regional responses within the northern savannas are explored in the text of those articles (Holmes 1997).

Later in this article in the *Rangelands Journal*, there is preliminary discussion on divergent regional directions and on their prospective influence in shaping differentiated regional strategies.

At the risk of oversimplification, in Figs 3 and 4, an attempt is made to categorise all 29 regions according to a leading attribute, which poses the main challenge and opportunity in shaping regional policies and planning. This regional categorisation is made primarily to stimulate comparative appraisals and not in any prescriptive sense. It is certainly not intended to be more than a pointer in identifying priorities in strategic planning for individual regions.

Towards people-oriented regional strategies

Given the big challenges confronting rangeland communities and the small numbers of people out there to take up these challenges, there is an urgent need to ensure an ongoing coordinated, participatory approach in pursuit of agreed regional economic, social, cultural and environmental goals. This requires working partnerships between all relevant interests: public sector and private sector; Aboriginal and non-Aboriginal; conservationists and developers; pastoral and non-pastoral; mining and non-mining; local and non-local. These are needed to overcome existing fragmentation and conflict, which has a debilitating effect, given the very scarce human numbers and capabilities available in our sparsely

settled rangelands. The need for such working, 'grass roots' coalitions has been recognised in the recent regional agreement reached in Cape York Peninsula.

Table 2. Australia's rangelands, goals, strategies and mechanisms for regional development in the productionist and post-productionist eras

Goals, strategies, mechanisms	Dominant within productionist era	Additional within post-productionist era
Economic orientation	Market-oriented: income generation	Non-market: Aboriginal rights; human welfare; environmental; sustainability
Socio-economic goals	Maximise commodity output	Maximise amenity benefits: tourism, welfare, environment, community, cultural values
Marketable outputs from natural resources	Minerals, pastoral products	Tourism, recreation, amenity values
Non-market output from natural resources	(Rarely recognised)	Aboriginal traditional uses, recreation, landscape, preservation (existence) values
Income sources for landholders	Pastoralism	Decline in pastoral income; prospective but elusive non-pastoral sources
Regional multipliers from mining	A few major urban centres; elsewhere modest and ephemeral multiplier effects	Negligible; economic enclaves linked to cities (fly-in, fly-out)
Development "frontiers"	Major pastoral and mining provinces; prospective irrigation areas	Arid and northern tropical margins of low pastoral potential but diverse amenity values
Private investment opportunities	Pastoralism, mining, transport, producer services	Tourism, Aboriginal services, communications, consumer services
Priorities in public investment	Physical infrastructure; roads, ports, airports, telecommunications, irrigation projects	Social infrastructure: education, health, housing, welfare, employment
Mechanisms for regional transfer payments	Commodity subsidies and support; fuel subsidies; cross subsidies within service utilities	Direct payments for welfare; special assistance with education, health, housing and related services
Research priorities	Production-oriented; selective resource inventories; specialised experimental research	Environmental- and people- oriented: inventories, appraisal and monitoring; multi-disciplinary survey research
Sources of political power and influence	Producer groups; pro-developer advocates	Diversified but with prominent roles for Aborigines and environmentalists
Local participation in furthering regional development	Very limited: mainly through local government, political parties and producer organisations	Increasingly diversifies, fragmented and conflictual; tentative moves towards regional coalitions

Source: Adapted from Holmes (1996)

Finally, regional strategies will need to place less emphasis on the output of commodities and more on directly meeting human needs and wants. While people may be a scarce 'resource' in rangelands, population-induced regional multipliers are exceptionally high, while commodity-induced multipliers are extraordinarily low. Furthermore, in this post-industrial era, regional growth is increasingly population-led. Our rangelands have very distinctive attributes which are becoming more valued in meeting human needs, including the needs of both permanent residents and transients. We need to identify these amenity-related assets and recognise their increasingly important role in shaping regional development (Holmes 1997).

Unless rangeland communities are successful in pursuing an integrated regional approach towards social and economic advancement, they are likely to wither into distant dismembered outposts of dominant coastal cities, no longer recognisable as being communities and incapable of capturing any emerging opportunities for organic growth and change. They will differ only slightly from fly-in-fly-out mining outposts or other nonfunctional urban enclaves reliant on distant centres for all major inputs, including transient workforce.

Specialisation, differentiation and separatism already prevalent characteristics of remote settlements, will be reinforced (Holmes 1988).

If this scenario sounds fanciful and inapplicable to established broadacre production systems such as pastoralism, I need only refer to the lack of conventional regional infrastructure on the Barkly Tablelands where the local economy is dominated by large absentee owned cattle stations.

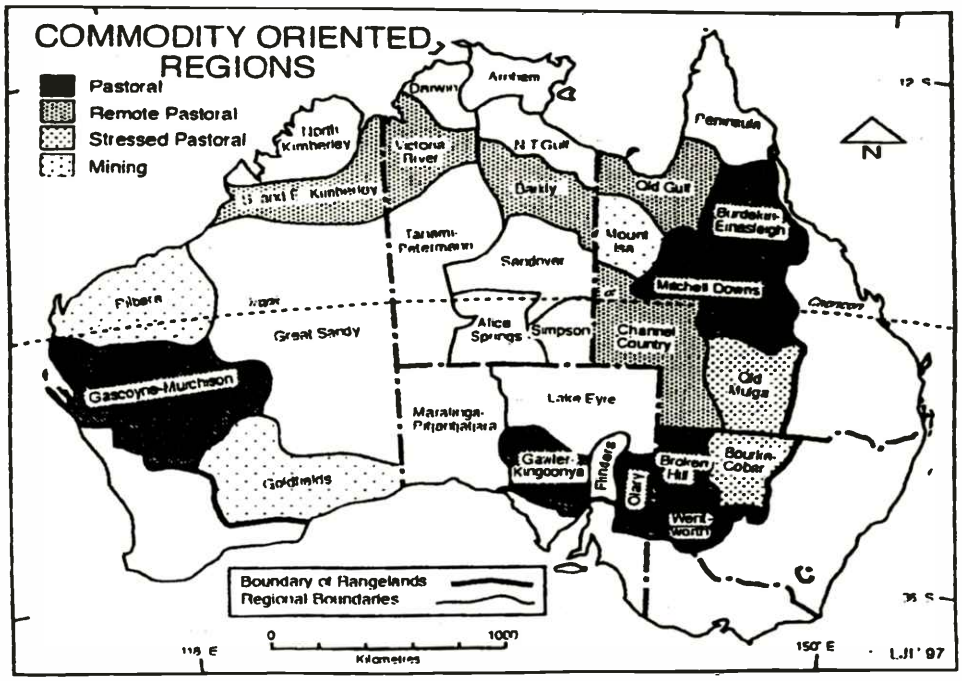

Figure 3. Commodity-oriented regions within Australia's rangelands.

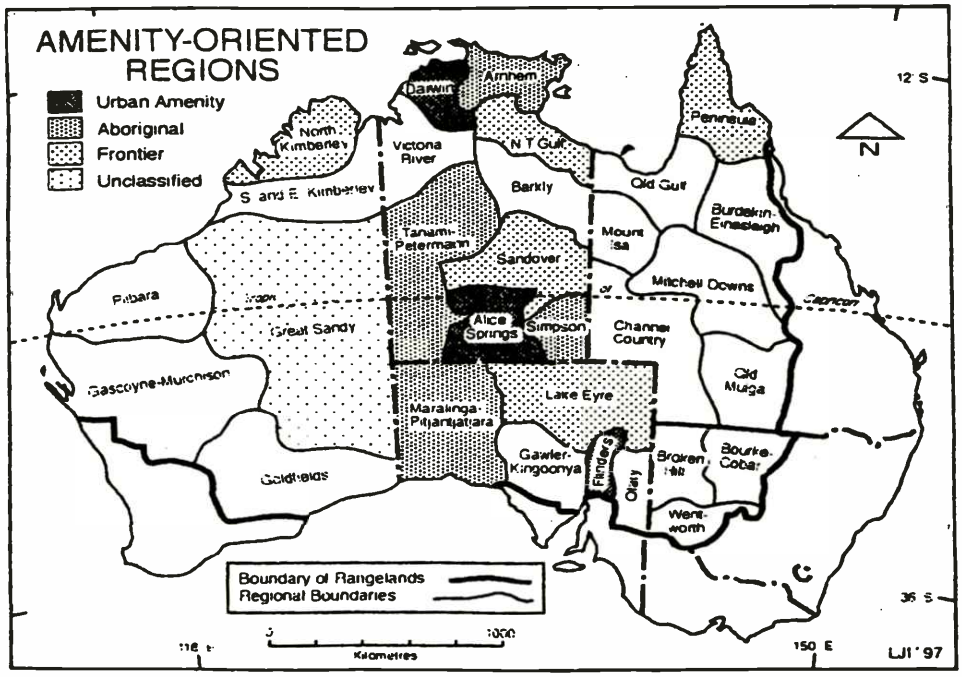

Figure 4. Amenity-oriented regions within Australia's rangelands.

In marked contrast to these family-based small holdings are the very large cattle stations, employing from eleven to sixty workers; and located in remote northern regions where they control the better-class beef grazing lands of the Channel Country, Queensland Gulf Country, Barkly Tableland, Victoria River District and Kimberley District. Commonly these stations carry from 8,000 to 80,000 cattle. The area of these stations varies from between 4,000 and 16,000 km^2, with populations between twenty and 100, at densities from 100 to 400 km^2 per person.

For the cattle stations, size is an effective response to extreme isolation, in two ways. First, the population numbers, workforce size and demand levels within the station are sufficient to allow the 'internalisation' of most basic services, such as extended storage of food, machinery parts and other supplies; vehicle repairs; communications; as well as supply of some food, health and medical services. Often large stations are better equipped than small outback towns. Second, the concentration of demand at one point allows the delivery of specialist long-distance services, including a regular air service for mail, perishable goods and emergency supplies, as well as being perfectly adapted for both regular and emergency health services through the Royal Flying Doctor Service (Holmes 1984).

While recognising the logistic advantages of this novel from of nucleated rural settlement and also accepting that it makes very few demands for expensive publicly funded services, there are clear deficiencies within the internal structure, including: absentee owner-ship; management deficiencies; unsatisfactory wages; living and working conditions; a closed, controlled contest for work and living; high labour turnover and inexperience; and rapid population turnover, with a truncated demographic structure. Also the internalisation of services and over-dependence on services from very distant locations have a negative effect on urban and regional development, and stifle any momentum towards further evolution of settlement system. In subsuming many of the functions normally provided by the local service town, the large stations deprive potential customers, including the rapidly growing numbers of through travelers, of local access to urban services. This nexus between large stations and lack of local services is so strong and so mutually reinforcing that the major pastoral regions of the remote zone are likely to remain bereft of local service towns, even where aggregate local demand may be sufficient to sustain them (Holmes 1988).

While the Barkly 'syndrome' is unlikely to be replicated in the same form in other regions, nevertheless there are ample signs of widespread trends favouring the growth of dismembered enclaves, lacking any functional connections to their local region. The current grass-roots trend towards enhanced regional awareness may well evolve into an important countervailing force, with prospects for significant positive outcomes.

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BUSH IMPERATIVES - SINK OR SWIM?

Mrs Jenny Crichton
Maryvale, Morven.
Women's Council for Rural and Regional Communities.

Let me take you on a journey. Maryvale, Morven, has been my home for thirty years where I have lived with my husband and raised three daughters. For well over sixty years the Crichton family has operated this merino sheep and cattle enterprise in the Rangelands. A southerner from Wagga, I can identify with geographic isolation which was magnified tenfold because of poor quality telephones, distance, financial constraints, little contact with family and friends and lack of services (Doctors, Allied Health etc.). I never envisaged having to teach our three daughters by correspondence and School of the Air (as it was known then) for thirteen years, until they progressed to boarding school. This has equipped me with a profound understanding of education in the bush. It was a natural progression for me to become involved in education with School of the Air and the Isolated Children's Parents' Association, which is a Federal and State organisation. My interest in rural communities and a passionate commitment to fairness and equality prompted me to apply for a position on the Steering Committee initiated to gauge if there was a need for a peak Women's Council in Queensland.

The Women's Council for Rural and Regional Communities was appointed this year as an advisory body by the Honourable Joan Sheldon MLA and consists of fifteen women from across Queensland and three ex-officio members employed by the State Government. We have provided advice since March on three issues of concern for women in rural and regional communities:

- access to telecommunications;
- strengthening opportunities for employment and training in traditional rural and new industries, and
- strengthening regional centres.

Recommendations reflect the collective opinions of the Council based on individual experience of members, extensive consultation and other information made available to the Council. Our focus is to give people an avenue to Government.

Since the time of Aristotle, philosophers have argued that women exist in, and represent, not the political world of competition, aggression and leadership but the private world of nurturance, altruism and loyalty. Women are often thought of as not having a strong independent conscience but rather a rigid sense of morals and that women's thought and communication is not rational and verbal, but intuitive, emotional and physical. Recently a prominent lady doctor suggested that if one thinks seriously about the world, and if it was a truly ***rational*** world, it would be ***men*** who ride sidesaddle, not women.

On a personal level - I have just completed a Rural Leadership & Business Development programme which has given me the courage and provided me with incentives to reach greater heights in pursuit of my goals in family and business.

Security of tenure is fundamental to the economic survival of our rural communities and is pivotal to our whole existence. The distinction between freehold and leasehold land is a purely arbitrary one in terms of Aboriginal lore and since Aborigines walked the whole of the land, there is no moral imperative for pastoralists alone to accommodate Native Title as part of the reconciliation process. Labelling ordinary rural families as pastoralists suggests that 93% of "us" are aligned to the corporations or "bush barons". Emotional and illinformed debate can only further drive the wedge between the bush and the city, not bridge the gap which we are striving to build.

Have you had to contend with a native title claim over your property? We have.
Have you had to shoot hundreds of your sheep? We have.
Have you had to face a bank manager telling you he can take everything and leave you with a fridge and bed? We have.
Have you had to pacify a sobbing homesick ten-year-old child at boarding school? We have.
Have you had to spend days without a telephone with an asthmatic child in the house? We have.

These are just some of the issues confronting people in the Rangelands. As society becomes urbanised it has little comprehension of rural issues. Urban mothers can enrol their children in subsidised childcare while their rural counterparts can only dream of the access.

Similarly, education in the Rangelands is usually accessed by either a small remote school, a Distance Education Centre, or a High School where some students spend hours every day travelling. Schools in remote regions must have the flexibility to individualise to their local needs. The allocation of staff, funding for resources, specialists, and teachers, to name a few, must consider all factors when decisions are made. This flexibility could be achieved with the move in Queensland to school based management over the next few years.

The trial into the use of the telephone through the DRCS (Digital Radio Concentrator System) at the Distance Education

Centre in Charleville is complete and was very positive, offering ***clear*** voice communication for students enrolled in the school involved in the trial. The major stakeholders must look at the cost effectiveness of its implementation. Continued support by Governments and the relevant departments for access to Internet and e-mail will enhance the outcomes for students learning through this mode of education and support for the home tutor. The need for a facility in a remote area to assist students completing their schooling at small remote high schools to assimilate into university life and also to encourage teachers to spend some time in the bush during their preservice training is essential if we are to get continuity and depth of experience in these schools. The single most important issue affecting schooling in rural Australia is ***access*** to a tertiary education for students from rural and remote areas. The cost for families whose income is already stretched, to set up a second home and then maintain it while their children are studying for a degree, is enormous. The Actual Means Test in Austudy is fraught with so many inconsistencies that it is almost impossible to access this important allowance. When, and if, the student does access Austudy, the threshold on income earned places the student below the poverty line. Students who have the initiative to find work are heavily penalised. These are our future leaders.

Communication is one of our most vital imperatives. With all the hype of Information Technology one wonders when and if we will ever catch up. Upgrading to a DRC with 2400 bits per second, from the old party line system where the property owner maintained their own line, was a subscriber's dream, we thought. Now their capability is too slow for adequate access to Internet. It took one hundred years to upgrade to DRCS so let's hope next upgrade will be a little quicker. We need to ensure that data is able to be transmitted to 100% of the land and water surface at the same speed, providing equity for all Rangelanders. This would then provide for children on Distance Education the speed necessary to send and receive. We are all waiting with baited breath to hear if the LEOS (Low Earth Orbiting Satellite) will provide us with a mobile phone service- this will be a ***luxury***. Television offers three channels; ABC, Channel 10, and SBS, which is received through satellite or terrestrial links. Being a Rugby Union addict is pretty frustrating. In July this year we were offered a second weekly mail service - I am still getting used to it. Lack of health services is common place. Doctors are few and far between. Flying surgeons are being utilised, however, specialists are usually accessed in larger regional centres or Brisbane. In Morven one can only have a baby on Tuesdays between the hours of 8am and 4pm. I opted for a maternity hospital down south. Anecdotal evidence regarding access and retention of Speech Therapists indicates it falls well below actual need.

Latest ABARE figures indicate a large hard core debt in the Rangelands which averaged over $400,000 but in effect this has now increased to over $460,000 since that survey. The average income of farmers in this area is below the poverty line. With the impending cessation of drought relief payments and interest subsidies, this position is expected to worsen considerably in both the above aspects. This is already starting to show an impact with increased activity by lending institutions re-assessing their positions. The new Agriculture - Advancing Australia package does not appear to have anything that will assist in these areas. The continuance of the commodity price failures of beef and wool only exacerbates the problem. Fifteen years ago we sold steers for $1.00 per kg. and today those same steers are selling for approximately $1.30 per kg. if you are lucky. Twenty years ago most properties employed staff and they are now unaffordable and are seen as a luxury. Lack of spending in rural towns has had a major impact on small businesses. Maintenance of improvements on properties is minimal. Of the properties surveyed in our district there is only one family (with no children) who are not working off farm to supplement their income. One cannot place a social cost on the affect these issues are having on rural families, but I can advise you, they are enormous. The Economic Rationalists can never deliver prosperity to the bush. It will deplete the population, deprive it of services, corporatise it and so export its profits. They are neither economic nor are they rational.

On reflection the picture I have painted is daunting, however, I can see a distant light if people are empowered to capitalise on their strengths. Our image is clean and green; we have an abundance of gas and other resources to encourage industry to our towns; feasibility studies have been carried out on Outback Wool in Cunnamulla; Blackall has a steering committee for a feasibility study on Wool Tech; utilisation of western hardwoods and Eco Tourism both have great economic potential. Ideas drive the nations progress and prosperity, and influence attitudes and shape events. I reiterate that I believe that there is a future for communities in the Rangelands and it is in the interest of ***all*** Australians that the Rangelands prosper. To achieve this it is imperative that the ***City meet the Bush and understand the importance of effective communication.*** We have to restore the ***soul*** into the "heartland" and give it a huge dose of ***hope***.

WHO CARES?: A LOOK AT RURAL EMOTIONS

Rob Brabrook
Lifeline, Toowoomba

My work as part of Lifelines' Rural Counselling Team has enabled me to participate in the changing emotional health of the rural community - both towns people and farm families. This has been my privilege as distinct from the work of farm financial councillors and rural family support workers whose province is to care for the rural sectors' financial health. I want to add to the human face of the bush, which has already been dealt with to some extent by Beth Woods and Rod Jensen and also the last speaker (Jenny Crichton). I appreciated Peter Ellyard's metaphor comparing the 'Cowboys and the Astronauts'. The area of my responsibility, which lies out in the Western Downs, contains more Cowboys than Astronauts and somebody suggested that this is going to increase and I agree with that. My concern with Peter's concept is that I regard them all as people with feelings, ranging from fear to joy, and I worry that we may tend to de-humanise them as we herd them aboard the spaceship.

When I began this work in 1991 high interest rates and deteriorating terms of trade had already placed may producers in a serious position. As the drought of the nineties impacted, the serious reduction in cash flows and growing debt levels brought anxiety and even fear to many rural people as they contemplated an uncertain future from their state of semi-shock. The following few years saw their rural resilience rescue them from their initial trauma. They adapted to a much reduced standard of living, assisted eventually by the introduction of the DRP (Drought Relief Payment), as they went into survival mode waiting with reasonable expectations for the drought to end. However, this was accompanied by fear that if they came through they would have too few resources to begin a new life. Those that wanted to leave were further frustrated by the scarcity of buyers. In my experience rural people, especially men, have difficulty sharing their inner feelings, and it is not until I am sitting with them around the kitchen table or leaning with them on the back of the truck in the shed, that they will really open up. Presently we have an aging rural population that views the future only with dismay. Those families who could see through the resilience, some hope as the drought eased, now begin to realise that they may never recover as the ever deteriorating terms of trade and unsympathetic government policy undermine their determination to re-establish themselves.

These people are suffering an immense grief, for the losses they have sustained have been wide-ranging and severe, and I want to list some of these losses so that you can appreciate what they are suffering. They have the loss of financial security and the fear of subsequent asset loss or depreciation, they have the loss of a comfortable relationship with their financiers, and they have lost their standard of living - fewer or no holidays, cultural outings or social gatherings, careful selection of basic and cheaper food lines. Roger Landsberg says that lifestyle is the reason for living in the Rangelands, but lifestyle is seriously degraded when, in many cases, return on capital is negative and the producer is working for the bank. A small vestige of independence is all that remains. They have suffered the loss of equity to the point that their farm no longer represents superannuation, and in many cases not long ago, that was their expectation. They have suffered: loss of generational succession - for why would children want to saddle themselves with a debt burdened property; loss of family life - children move away and spouses leave for off-farm work leaving partners to work longer hours alone; and loss of ability to provide the educational opportunities planned for their children. Reliability of farm plant and vehicles that have had to work years past their normal replacement date has also suffered. This can produce immense frustration and anger that is sometimes projected against family. They have lost their paid help, leading to more fatigue and reduction of efficiency of operation. This has meant also that wives and children have had to shoulder some of the hard physical work. Loss of local services due to government and bank cutbacks, heightening a sense of isolation and abandonment is another one. All of these and other losses, along with the putting aside of pride and independence, has resulted in outside aid having been accepted. It was back when I started that people had great difficulty in putting their pride aside to accept this assistance. All these have contributed to a tearing apart of a traditional established rural culture.

Males have had to accept that if their wives can find work, it has to be taken, further isolating and building resentment in the men-folk. Wives are often resentful that their role has been extended. The impact of these changes has barely been acknowledged by the wider community, but it must be to validate the new rural position. Families are increasingly suffering the attendant anger and sadness and need help to work through these feelings. Of course not all rural people are distressed to this extent - for instance irrigation cotton growers are, at present, travelling very well. In addition to clients referred to me, I do a lot of cold calling - just dropping in on farms unannounced. Almost all express great concern for their future on the land. Rural people tell me that some drastic re-thinking must take place soon, if they and rural Australia are to survive. Their terms of trade are determined by two factors they say. Firstly their costs are determined by suppliers' ever rising input costs and by their desired profit margins. Secondly, the prices received by them are likewise based on processors or manufactures ideas of what they can pay for raw materials to satisfy their annual meetings. In each case, primary producers are on the end of the line and at present are powerless to have any control over either their costs or their returns. Any significant impact on either of these areas would supposedly require massive and radical government intervention, perhaps involving significant international cooperation - and this is all unlikely. The only alternative is a provision of subsidies to create an equitable return. Their efficiency in the traditional industries has already been honed in the last twenty years. I can see that my rural clients are now being stricken by the greatest loss of all: this is their hope that someone that can cares enough to do something. They believe that nobody

cares. As they talk to me of their feelings of lethargy, helplessness and hopelessness I can often do little more than listen to them, sometimes cry with them, and re-assure them that they have done all that they could. Three times recently I have listened to wives tearfully talk of their agony as they frantically search for their husband who is briefly out of sight. Many more rural people are now on anti-depressant medication in the care of a psychiatrist, and my expectation is that this will escalate.

Finally, one of the problems we face in Lifeline is convincing governments that this emotional crisis exists. They seem to have a focus on re-structure, re-education in areas of business management, ecologically sustainable land use, long-term benefits that may come from globalisation and consequently their focus is on funding their areas that contribute to the implementation of these policies. They resist funding counselling services to help these existing emotional crises caused by having neglected the introduction of earlier effective interventions. Anxiety in the bush has been heightened recently by such happenings as pork and chicken imports, the uncertainties over native and white title, threatening de-regulation in the dairy industry and quality assurance programs. Many farm families are too down to cope with extra costs, extra competition or extra documentation. It would be comforting to know that there is enough caring in the community for this to at least be acknowledged.

ADULT LEARNING APPROACHES - ASSISTING EFFECTIVE TWO WAY COMMUNICATION

Coutts, J.
Rural Extension Centre, UQ Gatton College, QLD 4345

Introduction

The Rural Extension Centre (REC), a joint initiative of the Queensland Department of Primary Industries and the University of Queensland, was established because there was a communication problem between scientists, extension officers, the rural community and the broader society. 'Telling' rural people what was good for them was proving to be an ineffective way of dealing with the complexities facing the 'bush'! The REC has combined the experience of over 100 years of rural intervention through the Department of Primary Industries and the theoretical and conceptual strengths of the university. It was established at a time of enormous change occurring in the role of government services, significant challenges facing rural communities and industries, and rapid growth in new communication technologies.

A new approach to the communication process in rural extension

Many researchers and Research and Development agencies lament the large number of technologies, developed through the traditional research process, which appear to be 'left on the shelf' as a result of what they perceive to be poor communication strategies. McCartney *et al.* (1997) described such 'top-down' approaches as being...*built around technology - they generally put technology first and process second* - [and] *an emphasis is placed on communication about technology....One of the undesirable results of this approach is that primary producers are treated as passive learners.*

Many rural managers are frustrated at the lack of relevance of some technologies that are developed in relative isolation from those for whom they are intended. This point is illustrated in a presentation given by Andrew McCartney a Central Queensland beef producer, and member of the Kunwarara Best Practice Group who became involved in an alternative approach to interaction between researchers, producers and extension officers:

> *For the first time we had ownership of our problems by becoming part of the solution process. In the past, technology was developed by Researchers to respond to a certain problem and, while technically correct, sometimes the application of the technology was not practical or indeed relevant. This is because the industry Technologist, or producer, was not on the development team* (McCartney 1995).

Central to the improvement in the effectiveness of the communication process was the emphasis on adult learning. Another member of the Kunwarara Best Practice Group explained the benefits as follows:

> *I have been asked many times how the process of Best Practice works....My reply is that adults learn what they want to learn. The process does it as a team and by providing a safe environment where there is no shame in asking questions* (Rea 1995).

Adult learning principles

Extension officers in the Kunwarara example are seen as facilitators, and researchers and other 'experts' are invited to participate as group members identify needs where they would appreciate specific types of expertise. They also see each other as 'experts' and researchers with the group's combined resources amounting to a huge commercial research station. McCartney and Rea participated at the Second Australasian Pacific Conference held in Albury in November of this year. They were the senior authors of a paper entitled: *Best Practices - Extension that makes a difference to practices and performances* (McCartney *et al.* 1997). In this case they shared their experiences with many of the technologists who, in the past, considered it as their role to communicate the 'best practice' in management and technology relevant to the producers. They described their paper and their Best Practice process as follows:

> *This paper describes the 'Best Practices' process and its unique features. The model targets learning as the principle outcome. Participants have control of their own learning. They develop an understanding of a learning system and the skills to manage it.....They are no longer dependant on service* [or information] *providers but strive to achieve an interdependent relationship with service agents and a better position to negotiate relationships* (McCartney *et al.* 1997).

The communication breakthrough was based on this mutual recognition of expertise in the other parties and the provision of a safe environment to question, trial and interact. Fell (1997) described key principles of providing an adult learning environment as including:

- building on local experience - using the knowledge within the group or individual;

- making the learning environment comfortable and encouraging;
- involving people in planning their own learning experience; and
- ensuring that the learning activity meets the needs and relates to the problems of the group.

A central theme to providing an effective learning environment is that of mutual respect of each party's experience, needs and stake in the issue involved. I would take this further and say that this is also essential for an effective communication environment between the city and the bush.

Communication versus 'insultation'

There is a term that has emerged regarding governments' communication processes with those in 'the bush' - ***insultation***! This term, of course, has derived from the words 'consultation' and 'insulting'. It refers to the process of governments and their agencies spending enormous resources to consult with their clients - in terms of needs, policies or directions. In many cases, the perception has been that the consultation has had little impact on the resulting decision making process with some groups left feeling insulted and reluctant to engage in the process again. The communication process was seen to have failed.

This is illustrated by a recent study I undertook of a specific rural policy development in Queensland. I concluded that...*the sheer volume of the consultation process with the wide range of client groups and interests...also kept power in the hands of the review team (and hence the initiating organisation)...The volume and range of views in such a consultative process...appears to be a significant limitation to providing ownership by interests of those outside (and inside) the organisation. It also did not permit a process of negotiation and experimentation to develop over time* (Coutts 1994).

Herein lies the difficulty. Effective communication is not equal to information extraction, or information delivery. Effective communication entails mutual input into the way in which this information is developed *and* used. In the difficult area of encouraging effective communication between the city' and bush' about sustainable management of ecosystems, Röling (1993) proposed the concept of developing 'platforms'- or a coming together of different stakeholders in mutually constructing an understanding (and action) about an overlapping area. He saw it as being about facilitating...*joint learning of stakeholders on platform as they move to joint problem appreciation and collective action* (Röling 1993). Again, the link between effective communication and mutual learning is highlighted.

The current emphasis on extension training (for example, through courses at the Rural Extension Centre) is in this direction - a facilitative model of communication rather than a persuasive model (Coutts 1994). Persuasive extension implies that there is predetermined correct course of action, developed by experts, that needs to be taken by rural managers. Röling (1988) described this approach as...*how do I get them to where I want them*? It is about a one-way communication process. On the other hand, facilitative extension implies that, given the right conditions, information, mutual interaction and opportunity people can develop solutions to problems and take steps in directions that improve their situation. Adult learning principles are fundamental to this approach.

Communication through new technologies

The underlying principles of adult learning and two-way communication must also be carried into the era of new communication technologies. Easdown (1997) described the contrast between the traditional bureaucratic approach to electronic information services and the emerging vibrant commercial and community models:

> *Such sites* (well-used community web sites) *can be like a bustling local marketplace where there are lots of things happening and information, entertainment, local characters and useful services can be found. In contrast, some government or corporate sites are more like public libraries, where there may be a lot of carefully categorised information available, but little traffic. High quality information alone will not attract users to a site....Sites where people can enjoy themselves, have opportunities to talk to peers in a safe environment and express themselves will attract more traffic and provide a better context through which to provide information services* (Easdown 1997).

Electronic communication technologies provide enormous scope for communication across the 'bush' and city divide and even between countries. Easdown (1996) used an example of @griculture on-line, a subscription service in the United States established by a successful farming magazine and supported by then thirteen other US service industries. The service...*provided agricultural market information, weather, machinery sales information and chat facilities to discuss agricultural issues* (Easdown 1996). Easdown reported that a number of Australian producers were using the service and were involved in on-line discussions with other producers, researchers and agricultural 'experts'.

The principles common to the effective use of electronic and interpersonal communication mediums are those which recognise the interactive nature of communication and provide opportunity for those engaged in communication to feel safe and valued. It is in facilitating the learning process for all relevant parties that leads to effective communication.

Conclusion

Effective communication cannot be divorced from the learning process. It needs to be seen differently from processes of 'information extraction' or 'information delivery', and incorporate the principles of adult learning. These principles apply to the newer forms of electronic communication as well as face-to-face communication with groups and individuals. In communication terms, the principles could be restated as follows:

- Recognise that communication is a two-way process and provide opportunity for interaction between all concerned parties;
- Build on the experience of all concerned and value their perspectives;
- Demonstrate transparency and trust - be up-front about the purpose and context of communication processes that are initiated;
- See communication as a process that goes beyond a momentary exchange of information to that of negotiating the meaning and use of that information by the parties concerned.

The Kunwarara Best Practice group has demonstrated that meaningful communication can be practised between different parties with different experiences and expertise by following adult learning approaches. The objective of the group is to increase sustainable production - a topic of interest to both the 'bush' and the wider community. It provides, however, a model in principle for ongoing effective communication between the 'bush' and the city about a wider range of issues of mutual interest.

New skills are needed to equip people to participate more effectively in the communication process. It is not enough to be able to professionally present, provide or collect information. Skills are needed to facilitate *and* participate in the interaction and learning process central to effective communication. It is only in this way that we can avoid the increasing perception of ***insultation*** in the bush to a conviction of being involved in a genuine communication process.

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ECOLOGICAL IMPERATIVES AND PASTORAL SYSTEMS FOR THE AUSTRALIAN RANGELANDS

Keith Woodford
Dept of Natural and Rural Systems Management, University of Queensland, Gatton College, Q4345

In this paper I explore future scenarios for the Australian rangelands, focusing on ecological driving forces and pastoral systems. My perspective is that I am interested in human activity systems that are consistent with the ecological imperatives. I seek to explore, to understand, and perhaps even to dream as to what might be. I come to this paper as someone who has not had a particularly close association with the Australian rangelands. Indeed, although I live in Australia, I feel I know the rangelands of some other parts of the world better than the rangelands of Australia. In many ways I am an outsider looking in, with all the advantages and disadvantages that such a perspective brings.

The first question that I asked when preparing this paper was what exactly are the rangelands. I was able to confirm that they are a defined geographical zone comprising nearly three quarters of the Australian landmass, and that they comprise all the arid and semi arid grazing lands of Australia plus some high rainfall country in northern Australia. Indeed the Australian rangelands are what was previously defined by the Australian Bureau of Agricultural and Resource Economics (ABARE) as the Australian pastoral zone. Essentially they are the lands that for various reasons are unsuitable for cropping, and which in most cases are non-fertilised. They carry a mixture of introduced and native grasses, shrubs and trees. I found that the Australian rangelands occupy an ancient and infertile landscape with a highly variable climate. It seems that this combination of attributes creates a unique bio-physical environment (Flannery 1994). It is also an environment that lost its megafauna many thousands of years ago. I also note that it is an environment in which the indigenous people lived a nomadic life, despite apparently developing tools for activities such as grain grinding some 30,000 years ago. It is highly unlikely that this nomadic lifestyle was a fundamental choice; rather it was a lifestyle imperative.

I believe that nothing that I have said so far is particularly contentious, yet I note that the pastoral systems - primarily sheep and cattle - that we have imposed on the landscape were developed before we had such understandings. Accordingly, the overall question that I ask in this paper is whether we need to reconsider some of our more cherished beliefs about the role of sheep and cattle pastoral systems on the Australian rangelands. I do this by addressing three subsidiary questions.

1. What are the ecological trends in the Australian rangelands?
2. In what way do our traditional livestock systems impact on the ecosystem processes?
3. What are the alternatives?

I offer no easy solutions, but I do hope to help establish a framework in which we can progress our understanding of what we are doing and what else might be done. If there were indeed easy solutions, then others would have found them before now.

Ecological trends

To identify and quantify trends we need a set of indicators or measures that tell us what is happening. When I started out preparing this paper I assumed that there would be a useful set of indicators in place. However, despite all the ecological work in the rangelands, I contend that we really don't know what is happening in regard to the *ecosystem processes*. That has come as a surprise to me, as it was only a few months ago that I was asking the same questions in relation to northern Ethiopia, and thinking, somewhat naively, that if I were back in Australia it would be much easier to get the answers to these complex questions. But I have come to the conclusion that the indications that we have in Australia are indeed very piecemeal. It is no wonder that there are so many debates about conservation and land degradation; much of the time we find ourselves in the territory of DFOs (data free opinions).

I have found that there are several ways of looking at the ecological issues. The first is to ask what has been happening to the vegetation. I find that the plant ecologists believe there has been considerable increase in woody weeds throughout much of the rangelands (Tothill & Gillies 1992), and that there is also strong evidence, documented through carbon isotope analysis of sheep faeces, that in the sheep grazing lands in parts of South West Queensland there has been a major ecological change over the last 40 years from C4 grasses to C3 shrubs and forbs (Witt *et al.* 1997).

Another way of looking at the ecological trends is to consider the flow of key minerals within the system. Prior to European grazing systems there would have been only very slow losses from the system of key elements such as phosphorus. Plants and animals lived and died within the rangeland system and there was a cyclic flow of nutrients. However, offtake of animal products (beef, mutton and wool) has changed that situation. Further, the introduced grasses have greater capacity than the native grasses to draw minerals from the soil. With minimal fertiliser inputs, it would seem that we must be mining the fertility. However, at what rate soil fertility is declining is unclear to me.

A third way is to question how much soil is being lost to the system through erosion. Some of my colleagues advise me of major losses occurring in the Burdekin Catchment, and I think back to my New Zealand mountaineering days of the 1970s when in some years the red soils blowing across the Tasman turned the snow of the New Zealand glaciers a delicate shade of pink. But these indications are very qualitative. I am dissatisfied at the macro level with the rigour of the data and the implications thereof for sustainability. There seems to be a lot of subjective extrapolation involved.

A fourth way of looking at the ecological trends is to chart the flow of product from the rangelands. If ecological degradation is occurring then presumably the amount of animal product harvested from the rangelands should be decreasing. However, on closer examination I find this argument is seriously flawed. Improved technologies (such as using Brahman cattle) can mask any fundamental ecological degradation for a long time. Climatic fluctuations add a further dimension to identifying production trends. But most important is that systems can take a long time to crash, but when they do crash, they often do so very rapidly. Hence, livestock production is not a good indicator of sustainability because of the lags between cause and effect. Despite this, I find there is indeed evidence in parts of the sheep rangelands, which have been subjected to pastoralism for a lot longer than the more northern cattle country, that production is much lower now than in the past (Witt *et al.* 1997).

I must also admit to frustration at the extent to which the ecological debate in relation to the rangelands focuses on biodiversity. Of course I do not deny the relevance of biodiversity. However, I would prefer to see more emphasis based on ecosystem processes than on biodiversity *per se*. In this regard I am influenced by a recent contribution by Davies (1997).

So I move on from the question of ecological trends with a level of dissatisfaction. I think there are fundamental problems of long term sustainability but I am dissatisfied with the apparent level of documentation at both the micro and macro level. I want to know more about what is happening in relation to ecosystem processes. I don't want to be told for the thousandth time that we face major problems; I want to see more ***quantitative*** data on the trends.

Sheep and cattle systems

Sheep and cattle evolved in Mediterranean and European environments. Amongst the ruminant species they are unusual in their capacity to utilise roughage feeds, and they can also be considered as being very much K-selected species relative to most other ungulate species. In essence, this K-selection means that they are particularly well adapted to stable environments. Typically, they produce only one progeny per annum, and they carry fat reserves to tide them over periods of low seasonal pastoral production. It takes major feed deficits before animal populations crash, and it takes a long time for herds to rebuild.

Simple modeling of cattle herd dynamics suggests that it is particularly difficult for pastoral managers to adjust animal biomass in concert with the highly variable pasture productivity. Recent advances in seasonal prediction of rainfall suggest that for major parts of Australia it is becoming possible to predict ahead for up to 12 months the likelihood of dry seasons. Although individual pastoralists may respond to this by destocking, albeit at some cost, on a regional basis the options are quite limited. The normal turnoff from a cattle herd in the rangelands is no more than 25% of the herd and there is always a new cohort of progeny coming along. The low reproductive rate, long gestation period, and long growout period for cattle greatly limit managerial flexibility in relation to building up a herd during the good times. These limitations on the rate of herd buildup act as a major disincentive to farmers destocking ***when a drought is only a probability, and before it becomes a disaster.***

The situation with rangeland sheep flock dynamics is similar to cattle. With sheep the gestation period and growout period are shorter, but the typical rangeland sheep system of a large flock of wethers supported by a small flock of breeding ewes restricts the overall rate of flock buildup. As with cattle, the prospect of a slow population buildup acts as a strong disincentive to drastically cut numbers when drought is impending.

I conclude from this analysis that sheep and cattle are far from ideal ungulates for the Australian rangelands. I am not too concerned as to whether their feet are hard or soft, but I am concerned at the number of mouths and our difficulty to manipulate livestock numbers ***at the level of the region*** in response to climatic variability. The relevant issue is that we are grazing K-selected animals that evolved in much more stable environments. Our technology has then created farming systems that enhance our capacity to keep the animals alive during droughts. The problem, of course, is to find, a better alternative.

Kangaroos

At times there have been suggestions that we should be farming kangaroos. The typical argument goes that they have soft feet and are naturally adapted to the Australian environment. Both statements are true, although once again it is the number of mouths rather than the hardness of the feet which is important. But if kangaroos are seen to be the answer, then there is a need to ask what is the question? Quite simply, although kangaroos with their low maintenance feed requirements and delayed implantation are ecologically adapted to the rigours of the Australian environment, these kangaroo production systems are not well adapted to producing a marketable product that satisfies the world's

consumers. We need to reflect on the fact that there really is only one ***wildlife harvesting system*** that produces a meat product that commands a price similar to the meat from farmed and abattoir slaughtered red meat species, and that is the tradition-laden red and roe deer hunting systems of Europe. And even with venison there is typically a premium for farm-raised product. It is particularly challenging to develop quality assurance systems for wild-shot game that will satisfy mass-consumer markets. And of course the image problems of kangaroo are enormous. I recall my own conversations with major European game-meat buyers in 1992, when I was studying those markets. One of them, perhaps the largest of the European game meat buyers, said to me: "you don't have to convince me that kangaroo is a good product, because I know it is; but don't ask me to sell it". I note that Tescos in Britain have recently removed kangaroo from the shelves in response to animal welfare pressure, that imports to Korea have been blocked because it is not a 'traditional' food, and that some Australian supermarkets have decided not to stock the product because of anti-kangaroo activists. I recall a discussion with my Taiwanese interpreter when studying meat markets in that country. We both agreed that it was terrible to eat pets. I was talking about dogs but she was talking about kangaroos. And then in Tokyo there are all those little trucks skipping about the city delivering goods and parcels, with their lovely skippy images painted on the side. I am all in favour of continuing efforts to expand the kangaroo industry, but I don't see it as the salvation to the ecological or pastoral problems of the Australian rangelands.

There is of course another alternative with kangaroos, and that is to shoot them for sport. I am told reliably, that in some Asian countries there are millions of licensed members of gun clubs who would pay large sums to have an Australian shooting experience. Some years ago I became aware of a proposal to bring these game shooters in by the jumbo load, train them on the Gold Coast for several days, and then take them out west. Of course the scheme never got off the ground because it was politically and socially non-acceptable. However, before immediately dismissing the idea as crazy we should perhaps reflect that it is hunting, not meat production, that underpins the African wildlife ranching systems. I know one pastoralist in the Little Karoo in South Africa who shoots about 3000 springbok per year for the meat, but that it the exception to the general rule that wildlife ranching is all about hunting, not meat production.

Blackbuck antelope

There is another species that I would like to see farmed on our rangelands, particularly the open grasslands, and that is the blackbuck antelope (*Antilope cervicapra*). Of course it is not a native of Australia (in fact it comes from the arid and semi arid plains of the Indian subcontinent), and it does have hard feet. Indeed it is not even legal to farm this species in Australia. However these animals are present in Australia and we have a herd ourselves at The University of Queensland. To run these animals we had to get one of our farms classified as a zoo.

Why would anyone want to farm antelope? The first reason is the very simple one that they produce a high quality product that consumers seem to like and are prepared to pay good money for. The meat is very lean and mild in flavour. And the objective measurements (e.g. tenderness and pH) of the meat are very impressive (Woodford *et al.* 1996). The second reason is that they are very easy to farm under subtropical and tropical conditions. The third reason is that unlike kangaroos they are easy to muster, simple to work through yard facilities, and they can be trucked to an abattoir without getting stressed. And finally, in a rangeland environment, it is possible to manipulate herd numbers in response to feed availability much more easily than is the case with sheep and cattle. When feed is reasonable the blackbuck will have their first progeny at about 14 months of age and thereafter give birth to a single progeny every seven months (Woodford 1995). Progeny can be marketed at about six months if there is a need. In this situation graziers can quickly reduce numbers in a drought knowing that they can quickly 'crank up' the system again when the rains and feed arrive. Of course no animal is perfect and blackbuck do have one weakness. The animals are quite small; females typically weigh about 30 kg and males up to 40 kg. In general this means that processing costs per kg will be higher than for cattle. Some people have even suggested to me that their small size makes them non-commercial. My response is that if small size is such a disadvantage when it comes to processing, then how is it that our meat chicken industry survives? But I agree; if we process them like cattle and sell the meat as a boned-out product then costs will indeed be high.

I do not suggest that blackbuck antelope are going to solve all the pastoral problems on the rangelands, but they are one example of an alternative. The current ban on farming them is based on the precautionary principle and not much else. My own view is that they pose no risk to the environment from going feral, as they are so easy to destroy. Instinct tells them to always run to the open spaces and rely on their eyesight and staying power to get away from predators. They never go into scrub. It works very well against all predators except man, but they can't outrun the bullet. My argument is that we should assess a species such as the blackbuck antelope not on whether they are native or non-native, but on their ecological characteristics, their capacity to earn dollars, and their capacity to become a pest. My own contention is that they are ecologically much better suited to the rangelands than are sheep or cattle.

The role of pastoralism within the Australian rangelands

At this stage I want to step back a little and reflect on the overall concept of pastoralism within the rangelands. I started this paper on the premise that pastoral activities were fundamental to any human-activity systems on the rangelands. But is this assumption valid? When viewed in absolute terms the economic contribution of pastoralism on the rangelands sounds very large. For example, in 1994/95 the gross value of the products from cattle and sheep was $947 million, and this was obtained from about 6 000 rangeland pastoral businesses (National Rangeland Management Working Group

1996). However, when described in relative terms, and using data from the same source, the picture looks quite different. For example:

- although the rangelands comprise nearly three quarters of the Australian land mass they produce less than 4% of the gross value of Australian agricultural production, [and total agricultural production for ***all*** of Australia makes up only 3% of GDP]
- for every dollar earned by rangeland pastoral activities, more than $12 dollars is earned from mining activity in the rangelands.
- for every dollar earned in the rangelands from pastoralism, more than $2 is earned from rangeland tourism
- for every rangelands pastoralist there are 30 other employees in the rangelands
- for every rangelands pastoralist there are more than 120 unemployed people in Australia.

When viewed in this way, it seems surprising the extent to which Australian society tends to assume that rangeland pastoralism is fundamental to the Australian economy and the Australian way of life. No longer does it seem self-evident that rangeland pastoralism is particularly important to the Australian economy. Nor does it seem so self-evident that pastoralism should inevitably dominate in the debate between alternative land uses on the rangelands.

Of course the situation can look very different at the micro level of the individual property, where often there are no alternative economic activities to pastoralism. Given that pastoral decisions tend to be made by individual rangeland leaseholders who are seeking to meet their family needs for income, then it is inevitable that pastoralism will continue as a major activity. What is apparent, however, is that there is no particular national interest that requires pastoralism to receive community support. It needs to prosper on its own merits.

If the long term productivity of the rangelands as a pastoral resource is indeed declining, then the financial pressures on individual graziers are likely to increase. If graziers try to maintain stocking rates in this situation in an effort to maximise short term income, then the rate of productivity decline will increase further. In economic parlance, the public interest and the private interest will fail to coincide in situations where either the private rate of time preference exceeds the social rate of time preference, or where the sustainability impacts extend beyond the individual property. In these situations it is in society's interest to facilitate the property restructuring that needs to occur. What is less clear is the form that this restructuring needs to take. However, if stocking rates are to decline, then in general properties need to get bigger. Whether family ownership or corporate ownership can provide the best long term land stewardship is worthy of debate.

Concluding thoughts

At the start of this paper I said that I would be offering no easy solutions, because there are none. All the decisions are hard. At this point I will therefore conclude with the simple observation that we seem to have a long way to travel over the next few decades in terms of designing and implementing human activity systems for the Australian rangelands. I am left wondering the extent to which we will shape the future or react to it. It would be much easier to shape the future if we better understood the world about us.

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ECOJUSTICE: RE-DEFINING LAND CAPABILITY

B.R. Roberts
Land Use Study Centre, University of Southern Queensland, Toowoomba

Ecojustice: a new concept to rangelands

This paper deals with what has become known as Ecojustice. The concept of justice is usually thought to be well understood but the extent to which ecology extends beyond the so-called natural world, depends largely on the interpretor's acceptance of *Homo sapiens* as an integral element of the biota.

Western environmental values developed first from the realisation that the narrow post-Industrial Revolution views of natural resources have no long term future and, second, from the appreciation that new environmentally friendly values require socio-economic validity if they are to replace the old 'development' criteria of nations' progress. This background has led to the continuum of Eurocentric-Ecocentric values commonly contrasted in the teaching of environmental values. This paper suggests that this linear polarisation be replaced by a ***triangular configuration*** in which Indigenous peoples' links with their lands form a much-needed new vision of optional positions in the ecojustice debate (Figure 1). It is this triangular mindset which is the burden of the present paper

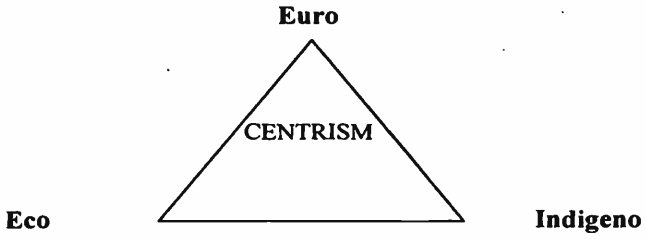


Figure 1. Triangular configuration which includes Eurocentric and Ecocentric values and the links of indegeous people with their land, to form a "new" vision for Ecojustice.

The fundamental problem with Eurocentrism is its exclusive values, its setting people apart from Nature and its reliance on reductionist science rather than holistic wisdom. I may be accused of drawing too close a parallel between Eurocentric and Christian values of Nature, but the historic links are plain to see. In fact if we consider the so-called Dominant Paradigm of Western Culture, the origins of our industrial and political values are seen to be writ large (Table 1).

Contrast the ideas in this dominant paradigm to the characteristics of what Suzuki (1992) calls the Native Mind:

- has reverence for the earth seeing it as holy, animated by spirit, rather than profane, wild or savage
- regularly honours nature through daily ritual or prayer rather than never or intermittently, and believes violations of nature have serious consequences
- assigns human beings enormous responsibility for sustaining harmonious relations with the natural world rather than unbridled license to follow personal or economic whim
- believes in a reciprocal, 'two-way' relationship rather than a 'one-way' exploitative one
- views wisdom and environmental ethics as discernible in the very structure of the world rather than some product of a lofty human mind
- sees nature as a dynamic interplay of elusive forces, not an array of static objects
- views time as circular or coil-like consisting of cycles that sustain life and face humans with recurrent moral crises, rather than a linear escalator of human 'progress'
- accepts in contrast to the rational mind that some aspects of life will always remain mysterious, unfathomable
- believes human thoughts and feelings are interwoven with nature and thus tends to express its knowledge of nature in gentle, accommodating terms
- celebrates and participates in nature rather than dominates it
- respects esteemed elders who have achieved a profound unity of inner and outer knowledge.

Table 1. Dominant paradigm in contemporary industrial society

	Dominant Paradigm
Core values	Material (economic growth)
	Natural environment valued as resource
	Domination over nature
Economy	Market forces
	Risk and reward
	Rewards for achievement
	Differentials
	Individual self-help
Policy	Authoritative structures: (experts influential)
	Hierarchical
	Law and order
Society	Centralised
	Large-scale
	Associational
	Ordered
Nature	Ample reserves
	Nature hostile/neutral
	Environment controllable
Knowledge	Confidence in science and technology
	Rationality of means
	Separation of fact/value, thought/feeling

(Source: Cotgrove 1982)

Knudson and Suzuki (1992) have attempted to distil what they call the 'Wisdom of the Elders' by giving their interpretation the meaning (or significance) of indigenous views of Nature, for Western developmental society. Instead of the linear continuum of centrism which O'Riordan (1981) expresses so well in distinct columns (Appendix 1), I invite the reader to equate the Deep Ecology end of O'Riordan's spectrum with ***Indigenocentrism*** (my term). Within the meaning of Ecojustice, we can create a sense of justice which then encapsulates both Nature in balance (ecocentrism) and Man behaving responsibly.

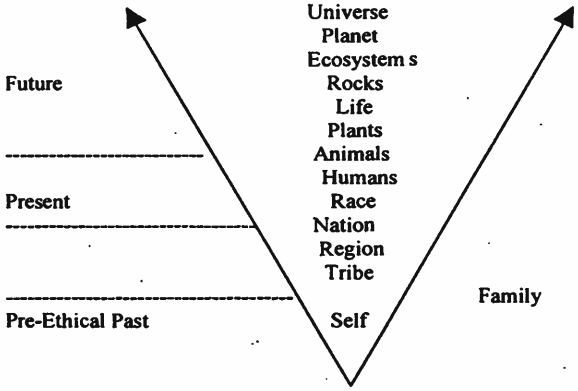
Generally prevalent among 'primitive' peoples is the belief termed ***animism***, from the Latin ***anima*** meaning soul, which holds that living and non-living objects possess spirits or souls. Importantly, these religions all possess a strong respect for Nature even to believing that the spirits of their ancestors reside and live on in particular animals, referred to in Western literature as ***totems***, and often associated with ***taboos***. All these un-Christian elements apparently led, not to tolerance and understanding by colonists and missionaries, but rather to fear, and the resulting attempts to forbid their practice whenever the White Mind had control. Herein lies the essential tragedy of religious disharmony in Australia - essentially a rejection of all that Mother Earth stood for in Indigenous culture.

Indigenous people unaffected by Western values, don't suffer from the delusion of separateness - on the contrary, they belong to the land (not vice versa). It is this belonging which rips the heart out of Aborigines when they are removed from their country. The White Mind has yet to fathom this eternal truth, this vital link, this oneness with Nature. This oneness is at the heart of the idea of Indigenocentrism, not implying people at the centre, but people as part of, people nurtured by, people drawing strength from, people respecting, people living gently on, people having their very being in and of, Nature.

Lester Brown refers to this loss of contact with reality as *global schizophrenia* - a separation of mankind from its very life support system. In this we can learn from the Aboriginal people, who when a child is born, ceremonially bury its umbilical cord in the ground, symbolically binding that individual to his or her country.

The American Indian, Aboriginal and Maori cultures were based on the central concept of 'mother earth' (or earth mother). 'To survive we have to know about the land. It contains our information about our traditional way of life. It's written there. It's like a library for our people and our children, so we must preserve it', says the Aboriginal Reverend Djiniyini Badaltja (Badaltja and Rurrambu 1990). The alleged speeches of Chief Seattle (1854) have formed an inspirational benchmark for environmentalists seeking a oneness with nature - a symbiosis with the ecosystem; a community of all living things (Seattle 1984). The Aborigines, as with the Red Indians, speak of 'my father's country' meaning not that my father owned the country but that my father's spirit is in the country.

We need to take note of how ethics and rights have evolved over time, as shown in Figure 2 below (Nash 1989).



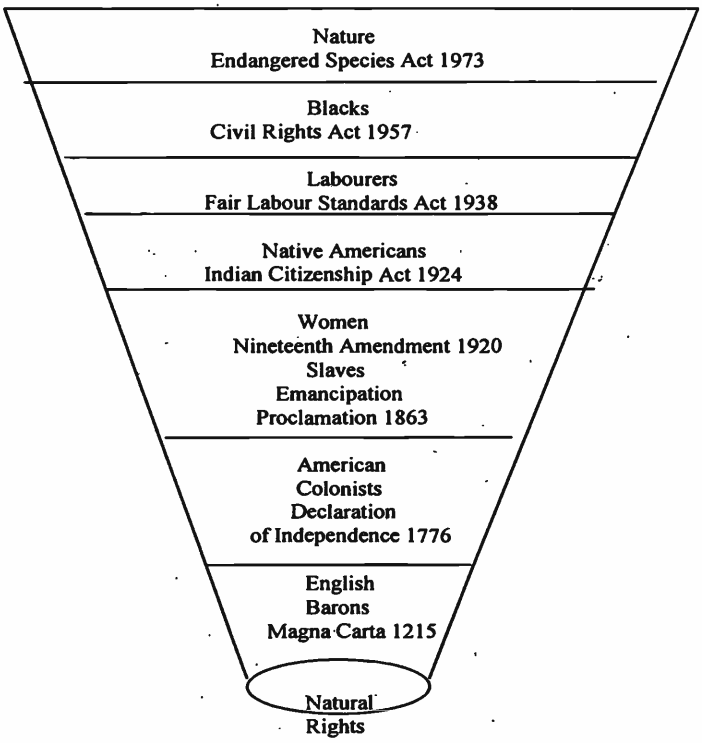


Figure 2a. The Evolution of Ethics (Nash 1989)

Figure 2b. The Expanding Concept of Rights (Nash 1989)

C.J. Dennis (1930) displays an insight and sensitivity to the environment, which put him ahead of his time in Australia when in his poem *The Spoilers*, he writes

> 'And to make them rich for a season they filched Earth's age-old store,
> And they hunted my Simple People - hunters of yester-year -
> And they drove us into the desert - while they wrought fresh deserts here.' (Dennis 1952).

Land capability principles - the new dimension of equity

An alternative view of the well-known biophysical approach to capability planning is given by Dale (1997) as follows:

While ecological sustainability may be a basic tenet given consideration by conservationists, the mainstream land use planning system and many physical planners continue to struggle with what the concept means and how it can be put into practice (Goodland and Daly 1995). For many conservation planners, however, it does continue to be the basic premise from which they plan. The ***principle of equity*** (my italics), however, tends to be commonly ignored, even within the perhaps more enlightened field of conservation planning. Equity is about fairness; it is about ensuring the real interests of people who rely on land and natural resources in some way are negotiated in any land use planning and management regime. When planners don't consider equity, unacceptable social and economic impacts are likely to befall those who have not had fair access to the planning process.

In conservation planning, the principle of equity has often been overshadowed by the core principle of sustainability. Despite this, increasing support for conservation objectives can not be achieved unless both core principles are balanced. It is important to stress the interrelationship of these planning principles at this time in history when conservation interests are increasingly looking to Indigenous domains as core opportunities for increasing the conservation estate and for undertaking conservation activities. In the interests of the equity principle, however, there is a need to place such opportunities into historical perspective.

Historically, Indigenous reserves were established across Australia in areas that were seen to not be suitable for economic development. This particularly occurred during the late 1800s and early 1900s, ostensively to protect

Indigenous people from pastoral incursions, disease and to create pools of cheap labour for a number of primary industries. The most heavily populated traditional lands and areas of higher conservation value were those most often alienated from Indigenous control.

Dale (1997) explored the common failure of these projects, many of which damaged the natural resource base of affected communities. Most projects failed because the objectives of those agencies wishing to establish them were met with both passive and active resistance from Indigenous people. Many were in direct conflict with the cultural, social and economic objectives and aspirations of Indigenous communities and individuals.

Further, from the 1950s to the 1970s, there were significant reductions in Indigenous reserve areas as a result of revocations made in favour of mining, particularly in Cape York Peninsula and the Northern Territory (Howitt 1978). Since the 1970s, however, Indigenous people have increasingly been able to use their improving legal rights and political status to resist external resource developments which have not adequately sought to compensate economic, social and environmental impacts (Craig *et al.* 1995).

The nature of Indigenous interests in land provides the substance around which negotiations about cooperative management regimes revolve. These interests are not mutually exclusive and there often may be several interests in one land area (Dale 1991). The relative importance of these interests may often be weighed up by communities and individuals in the course of negotiations.

One of the most complex issues in cooperative management negotiations arises when there are competing interests in land held by two or more Indigenous groups. An example may be disputation over traditional ownership. Another may arise in situations where people have been relocated at some point in history on to the traditional lands of other groups. It is not the role of conservation interests to resolve disputes of this nature. Attempts to reach cooperative management arrangements on disputed land, however, will need to seek agreement between disputing groups about the role each will play in the negotiations. Such arrangements have often been the catalyst for adversarial groups to resolve outstanding disputes informally or through a variety of legal avenues.

In terms of land capability and multiple use, planners will need to recognise that Indigenous land use encompasses a range of interests and land values:

- Traditional land interest.
- Economic interests in land.
- Social linkages and values.
- Spiritual and cultural interests.
- Historical linkages to land.
- Subsistence interests in land and natural resources.
- Interests in sustainable use and conservation. (Dale 1997)

Conclusion

Integral to sustainable land use is a fair and just society. This includes the expansion of earlier concepts of biophysical land capability to include notions of ecojustice and spiritual links to the land.

For future rangeland planning and management, it will be necessary to accept that the former definition of 'non-productive uses' requires modification to encompass a broader range of communal values.

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Appendix I

The Pattern of Environmentalist Ideologies **(Source : O'Riordan)**

ENVIRONMENTALISM

ECOCENTRISM ◄——— ———► TECHNOCENTRISM

Deep Environmentalists	Self-reliance Soft technologists	Accommodaters	'Green Business'	Cornucopians
1. Lack of faith in modern large-scale technology and its associated demands on the elitist expertise, central state authority, and inherently antidemocratic institutions. **2.** Implications that materialism for its own sake is wrong, and that economic growth can be geared to providing for the basic needs for those below subsistence levels. Intrinsic importance of nature for the humanity of man; Ecological (and other natural) laws dictate human morality; Biorights – the right of endangered species or unique landscaped to remain unmolested.	**3.** Emphasis on smallness of scale and hence community identity in settlement, work and leisure; **4.** Integration of concepts of work and leisure through a process of personal and communal improvement; **5.** Importance of participation in community affairs, and of guarantees of the rights of minority interests. Participation seen both as a continuing education and political function.	**1.** Belief that economic growth and resource exploitation can continue assuming; (a) suitable economic adjustments to taxes, fees etc; (b) improvements in the legal rights to a minimum level of environmental quality; (c) compensation arrangements satisfactory to those who experience adverse environmental and/or social effects; **2.** Acceptance of new project-appraisal techniques and decision review arrangements to allow for wider discussion or genuine search for consensus among representative groups of interested parties; **3.** Provision of effective environmental management agencies at national and local levels.	**1.** Self regulation through enlightened use of unfetted economy; **2.** Environmentally friendly advances in science and technology; **3.** Rise of 'green capitalism' and 'green consumerism'; **4.** Centralised and structures society.	**1.** Belief that man can always find a way out of any difficulties, either politically, scientifically, or technologically; **2.** Acceptance that progrowth goals define the rationality of a project appraisal and of policy formulation; **3.** Optimistic about the ability of man to improve the lot of the world's people; **4.** Faith the scientific and technological expertise provides the basic foundation for advice on matters pertaining to economic growth, public health, and safety; **5.** Suspicious of attempts to widen the basis for participation and lengthy discussion in project appraisal and policy review; **6.** Belief that any impediments can be overcome given a will, and sufficient resources arising out of wealth.

THE WIK DECISION: SUMMARY AND IMPLICATIONS FOR LAND MANAGEMENT OF PASTORAL LEASES

Anne Ross
Departments of Natural and Rural Systems Management and Anthropology and Sociology University of Queensland

Introduction

There has been much debate over recent months about Native Title, the Wik decision, the Ten-Point Plan and the proposed changes to the *Native Title Act 1993*. In order to understand this debate it is essential that the findings of the High Court in *Wik* are clear. Many politicians and members of the media have presented their versions of these findings, but have more often than not erred in their summaries of the facts.

In this paper I provide a brief but thorough overview of the High Court's findings in *Wik*. I provide little in the way of comment - I simply outline what the judges said and discuss the implications for land management on pastoral leases as presented by the High Court.

There are seven judges on the High Court bench. In *Wik* five of them made lengthy written statements in support of their judgements. One of these, Chief Justice Brennan, found for the Respondents - the State of Queensland. The other two judges who found for the Respondents, Dawson and McHugh, wrote only two or three lines confirming that they agreed with Brennan. Four High Court judges, Justices Toohey, Gaudron, Gummow and Kirby, found for the Appellants - the Wik and the Thayorre Aboriginal peoples of Cape York. Almost 190 of the 237 pages which make up the Wik Decision are the findings in favour of the Appellants. My summary reflects this bias.

It is also important to remember that courts are not able to make laws. Courts must interpret existing laws using precedent and other court cases as the basis for their arguments. In the case of common law, which is what underlies the *Mabo* case, the judgements of courts will influence law, because the findings often need to be codified to make them operable. This is what happened with respect to Native Title and the passing of the *Native Title Act 1993*. In the Wik Decision, the challenge of the Wik and Thayorre peoples was with respect to existing statute laws of Native Title and Pastoral Leases. The Wik Decision, therefore, did not involve common law, but relied on statue laws relating to land grants.

Background

The situation of land laws in Australia before *Mabo* was simple - all land that wasn't freehold belonged to the Crown and the Crown could dispose of land in accordance with legal statutes. The common law recognised only this one type of land system. Indigenous occupants of Australia were not recognised as being land owners, so there was no need to consider any other form of land ownership. This was the premise of *terra nullius*.

The *Mabo* case overturned this 'legal fiction'. The High Court determined that a form of land ownership - 'native title' - had indeed been in existence at the time of European colonisation and that this land title system had survived in many parts of Australia:

> Whatever the justification advanced in earlier days for refusing to recognise the rights and interests in land of indigenous inhabitants of settled colonies, an unjust and discriminatory doctrine of that kind can no longer be accepted. (Brennan 1992:30)

However in *Mabo* the High Court had also found that:

> native title is extinguished by valid government acts *that are inconsistent with the continued existence of native title rights and interests*, such as the grant of freehold or leasehold estates ... (Preamble to *Native Title Act 1993*, par 7(c) - *emphasis added*).

When the Wik and Thayorre peoples of Cape York claimed native title over pastoral leasehold land in Cape York, which had never been occupied under the terms of the lease, the National Native Title Tribunal (NNTT) refused to process their claim because it was believed that pastoral leases extinguished native title. The Wik and Thayorre appealed to the Federal Court, where the NNTT's judgement was upheld. The Wik and Thayorre then appealed to the High Court (Brennan 1996). The findings of the High Court in this case are what is known as 'the Wik Decision'.

The question

The principal question posed to the High Court by the Wik and Thayorre peoples was:

> Did the pastoral leases granted in the lands claimed by the Wik and the Thayorre, either by the fact of grant or the terms thereof, extinguish the native title rights of the Wik or Thayorre? (Kirby 1996:178).

In other words, is there anything in the leasehold title of the land which would be inconsistent with native title and leasehold ownership co-existing?

The State of Queensland, on the other hand, argued that 'a lease ... confers exclusive possession on the lessee' (Toohey 1996:63). One of the main arguments in support of this claim was that Sections 203 and 204 of *The Land Act 1910* (and equivalent sections of *The Land Act 1962-1974*) allowed for trespassers to be removed from leasehold land (Gummow 1996).

The arguments by the five judges who wrote the judgement revolved around these central issues.

The minority view

Chief Justice Brennan, and Justices Dawson and McHugh found that the argument by the State of Queensland was convincing - but as only Brennan wrote a statement of findings against the Appellants, this summary only considers Brennan's views.

In brief Brennan found that a lease *does* confer exclusive possession on the lessee. He argued that in common usage a lease means that land is granted to a person for a specific purpose. Once the lease expires the land reverts to Crown Land, but under a new form of land tenure in which the Crown has exclusive rights to determine subsequent land use. In other words, because the land does not revert back to the form of Crown Land that existed prior to its lease the tenure has been altered in some way. The title cannot, therefore, revert to any surviving native title:

> It is only be treating the Crown, on exercise of the power of alienation of an estate, as having the full legal reversionary interest that the fundamental doctrines of tenure and estate can operate. On those doctrines the land law of this country is largely constructed. It is too late now to develop a new theory of land law that would throw the whole structure of land titles based on Crown grants into confusion (Brennan 1996:35).

Interestingly this is a rather different position from that adopted by Brennan in *Mabo*, where he argued that there was no reason to perpetuate a discriminatory version of land law just because the new version of land law (Native Title) had not been previously recognised (Brennan 1992).

Brennan's arguments in *Wik* do not go into detail other than in relation to reversion. There is no need for them to do so. Brennan found for the Respondents in the first element of their argument, so in accordance with legal precedent Brennan is not required to discuss in detail the other elements of the argument put by either side.

The same cannot be said for the decision in favour of the Appellants. There must be no doubt that Native Title could co-exist on pastoral leases before any decision along those lines can be made. Consequently the case for the Wik and Thayorre must be detailed, and cover all aspects of the Appellants' and Respondents' cases. In the next section I look at the findings in favour of the Appellants.

The majority decision

The four judges who upheld the Aboriginal peoples' appeals were Justices Toohey, Gaudron, Gummow and Kirby. They each gave a detailed argument of their findings, totalling almost 200 pages. I will only be able to provide you with a brief summary of their main arguments.

Intent

The majority decision focussed on the question of the *intention* of laws relating to the granting of leases. Each judge argued that the intention of the legislation regarding the nature of leases must be gleaned from the statutes themselves - common usage of terms like 'leasehold' were irrelevant in a court of law, they argued.

All four judges placed the legislation in question - *The Land Act 1910 (Q)* and *The Land Act 1962 - 1974 (Q)* - in historical context. The earliest land laws in eastern Australia (the colony of New South Wales, of which Queensland was a part until 1859) were designed to control the actions of squatters, who took up land in a legal environment in which there were no laws to delineate rights of access and ownership of squatters' lands. The *Crown Lands Unauthorized Occupation Act 1839 (NSW)* was designed to set some controls on squatters. The Act specifically mentions the rights of Aborigines to 'be upon' Crown lands, including those held under a Crown lease (Kirby 1996:198).

Subsequent legislation also made provisions for Aboriginal occupants. For example, Earl Grey, the Secretary of State for the Colonies, wrote to Sir Charles Fitzroy, Governor of New South Wales (and therefore Queensland, too) in 1848 that leases granted under the *Sale of Waste Lands Act 1842*:

> ... give the grantees only an exclusive right of *pasturage* for their cattle, and of cultivating such Land as they may require within the large limits thus assigned to them, *but that these Leases are not intended to deprive the*

> *natives of their former right to hunt over these Districts, or to wander over them in search of subsistence, in the manner to which they have been heretofore accustomed...* (cited in Toohey 1996:67 and Kirby 1996:199 - *emphasis added*)

When Queensland separated from New South Wales in June 1859, New South Wales' laws remained the laws of Queensland until the new State formulated its own legislation. The Queensland 1910 Land Act arose out of the 1842 New South Wales legislation with very little variation. The intent of the New South Wales legislation, therefore, is vital to interpreting whether or not current pastoral leases in Queensland, issued under Queensland laws, grant exclusive possession to a lessee.

Using similar arguments of association in history, Justices Toohey, Gaudron, Gummow and Kirby argue that leases do not, and have never, granted exclusive possession to lessees:

> Against this background, it is unlikely that the intention of the legislature in authorising the grant of pastoral leases was to confer possession on the lessees to the exclusion of Aboriginal people even for their traditional rights of hunting and gathering (Toohey 1996:68).

Pastoral lease conditions and exclusive use

This notion of the intent of the pastoral lease legislation is taken up by all judges. Those of the majority opinion argued in great detail that pastoral leases were only ever designed to give exclusive rights of *pasturage* to lessees. The large number of conditions of leases makes it clear that pastoral leaseholders must give access to their land to all sorts of people - mining companies, Crown inspectors, those with timber-getting leases, those using travelling stock routes which pass through a lease, and so forth (see for example Gaudron 1996:122; Kirby 1996:201). In fact, the law makes it clear that leasehold title already co-exists with several other land titles - and has done so since the first leases were issued. The co-existence of native title is, therefore, not without considerable precedent.

Justices Toohey, Gummow and Kirby make it clear that pastoral leases are 'for pastoral purposes only'. Gummow (1996:166-167) explains this term:

> The phrase 'for pastoral purposes' would include the feeding of cattle or other livestock upon the land but it may well be broader, and encompass activities pursued in the occupation of cattle and other livestock farming. Even upon this broader interpretation, it cannot be said that there have been clearly, plainly and distinctly authorised activities and other enjoyment of the land necessarily inconsistent with the continued existence of any of the incidents of native title which could have been subsisting at the time of these grants of the pastoral leases.

Rights of pastoralists

All four judges in the majority make it clear that in all known cases of co-existence of rights and interests, the rights of pastoralists, as provided under the terms of their leases, prevail over any other rights. In this sense a mining company, for example, cannot interfere with the legitimate activity of a pastoral lease. The same provisions, therefore, exist in Wik. Under the orders given by Justice Toohey, and endorsed by Gaurdon, Gummow, and Kirby, wherever there is an inconsistency between native title rights and pastoral rights as provided by statute, pastoral rights will prevail:

> In the event of an inconsistency between the rights exercisable by a lessee and rights exercisable by the holders of native or aboriginal [sic] title, *the appellants accepted that the former would prevail* (Toohey 1996:48, *my emphasis*)

> If inconsistency is held to exist between the rights and interests conferred by native title and the rights conferred under the statutory grants, *those rights and interests must yield, to that extent, to the rights of the grantees* (Toohey 1996:83, *emphasis added*).

In other words, native title rights *cannot* interfere with any legal and legitimate actions by pastoralists.

Trespass

The question of trespass was one of the key defences used by the Respondents in this case. The State of Queensland argued that because lessees had powers to evict trespassers, the leases effectively granted to leaseholders exclusive rights to the land.

There was considerable argument over this point in the High Court Decision. The most succinct discussion was provided by Gummow, and it is this argument which I use as the basis for my summary here.

Justice Gummow pointed out that the laws relating to trespass as written in the 1910 Act followed the notions of the *Crown Lands Alienation Act 1876 (Q)*. The relevant sections of the two Acts are as follows:

The Land Act 1910 (Q)
Section 203
Any person, not lawfully claiming under a subsisting lease or license or otherwise under any Act relating to the occupation of Crown land, who is found occupying any Crown land or any reserve, or is found residing or erecting any hut or building or depasturing stock thereon, or clearing, digging up, enclosing, or cultivating any part thereof, shall be liable to a penalty ...

Crown Lands Alienation Act 1876 (Q)
Section 91
Any person unless lawfully claiming under a subsisting lease or licence or otherwise under this Act who shall be found occupying any Crown lands or land granted reserved or dedicated for public purposes either by residing or by erecting any hut or building thereon or by clearing digging up enclosing or cultivating any part thereof or cutting or removing timber otherwise than firewood not for sale thereon shall be liable to conviction ...

Further, Section 204 of the 1910 Queensland Act also makes provision for an officer of the Crown to effect the eviction of 'any person ... in unlawful occupation of any Crown land'. Under this section of the Act, a leaseholder may also make a complaint against 'any person in unlawful occupation of any part of the land' and the Crown may act on this complaint.

Gummow argues that under both these Acts Aboriginal native title claimants are not trespassers as defined in these statutes (Gummow 1996:156-157). Gummow points out that Sections 203 and 204 of the 1910 Act were intended to deal with squatters. Furthermore, the fact that leaseholders themselves have no rights to evict trespassers - they can only request that an officer of the Crown attend to carry out the eviction - argues for the very different land status of leasehold vs freehold lands.

Gummow concludes that native title owners are not to be included in the phrase 'any person' in these Acts, because they are not exercising an 'unlawful' claim of rights to the land.

The role of Mabo [2] in the Wik decision
In his statement Justice Kirby draws a clear link between the findings of the *Mabo* case and the arguments in the *Wik* appeal. The *Mabo* case made it clear that native title had survived the Crown's acquisition of land and of title to land. The *Native Title Act 1993* reflected the notion that native title had been extinguished on pastoral leases because it was assumed that pastoral leases were inconsistent with the continuation of native title. The arguments put forward by the majority in the *Wik* Decision demonstrate the fallacy of that assumption (Kirby 1996).

In the *Mabo* case the High Court found that the legal doctrine of land tenure in Australia was in error when it recognised only one system of land ownership, based on English common law. Native title is not a fragile land title system which is easily extinguished (Kirby 1996:217).

The notion of leasehold as a land title giving exclusive possession to the lessee is a 'new legal fiction' according to Kirby. It is enlightening to read his argument on this point in full:

> Pastoral leases [in Australia and Queensland] covered huge areas as extensive as many a county in England and bigger that some nations. In these circumstances, it seems distinctly unlikely that there can be attributed to the Queensland Parliament an *implied* purpose [*my emphasis*] of granting a legal right of exclusive possession to the pastoralist (including as against Aboriginals known to exist on the land and unmolested in their continuing use of it) where that Parliament held back from expressly so providing. ...
>
> To invent the notion, not sustained by the actual language of the *Lands Acts*, that the power conferred on the Crown to grant a pastoral leasehold interest was an indirect way of conferring on the Crown 'ownership' of the land by means of the reversion expectant involves a highly artificial importation of feudal notions into Australian legislation. It would require much plainer statutory provisions to convince me that this was what the Queensland Parliament did in 1910 and 1962 when the *Land Acts* were enacted. That legislation is silent on the point precisely because the notion that the legislators (and drafters) were obliged to confer such a power on the Crown would have been furthest from their minds. What is therefore suggested, upon analysis, is that, by a new legal fiction, such a purpose should be *invented* [*my emphasis*], retrospectively attributed to the Queensland Parliament and read into the *Land Acts* in order to afford the estate out of which the Crown might grant a pastoral lease. ... Importing into the *Lands Acts* notions of the common law apt for tenurial holdings under the Crown in medieval England, and attributing them to the Crown itself, piles fiction upon fiction. ...
>
> As the historical materials demonstrate, it was known that there were substantial numbers of Aboriginals using the land, comprised in the pastoral leases, according to their traditional ways. It was not government policy to drive them into the sea or to confine them strictly to reserves [Roth 1897]. In these circumstances it is not at all

difficult to infer that when the Queensland Parliament enacted legislation for pastoral leases, it had no intention thereby to authorise the lessee to expel such Aboriginals from the land. Had there been such a purpose, it is not unreasonable to suggest that the power of expulsions would have been specifically provided (Kirby 1996:218-220)

Discussion and implications

The judgement in the Wik Decision is an interesting one. It does not *reverse* previous law or *change* the nature of pastoral leasehold in Queensland and the rest of Australia. The decision once again exposes a legal fiction in Australian land tenure. Just as *Mabo* did when the courts demonstrated that *terra nullius* was a concept which erred in law and in fact, so the Wik case has shown that the concept of leasehold as a tenure providing exclusive occupation of land is also an error of both law and fact.

Leases were never designed to grant lessees rights other than rights for pastoral use only. Leases have always been granted subject to numerous provisions and restrictions. Several other titles have always co-existed with pastoral leasehold titles. Leases were never designed to prohibit Aboriginal people from having access to their lands. Pastoral leases can be worked without interference to native title rights, and native title rights are not inconsistent with pastoral rights. Where there is any inconsistency between native title rights and pastoral lease requirements, the pastoral lease is to take precedence.

So what are the implications of the Wik Decision for land management on pastoral leases? There are several:

1. Pastoralists can continue to undertake the activities which their leases allow - depasturing stock and cultivating the land in a way that is in keeping with the pastoral rights conferred on them by the lease. Illegal activities - those which are not permitted under the pastoral lease - cannot be undertaken, and have never been possible under the law.

2. Aboriginal native title holders - who must still *demonstrate* this title in accordance with the provisions of the *Native Title Act 1993* - will be able to practice their traditional hunting and ceremonial activities on pastoral land which is not cultivated.

3. The Wik Decision does not grant Native Title rights over pastoral leases. The Decision simply meant that an *application* for Native Title over a pastoral lease can be accepted by the NNTT. Native Title still must be proven under the strict conditions of the *Native Title Act 1993.*

4. Native title owners will have rights to negotiate with pastoralists and the Crown regarding any *non*-pastoral activities (as defined in the Land Acts and the leases themselves) proposed for pastoral leases, such as mining, clearing, agro-forestry ventures, and so forth.

Clearly negotiation is a vital option. The model presented in the Cape York Land Use Agreement is one which Aboriginal communities around Australia are holding up for adoption. This is a less confrontationist response to the Wik Decision than is the 10-point plan, which effectively overturns the decision and provides for 'bucketloads of extinguishment' (according to Deputy Prime Minister, Tim Fisher) of native title on pastoral leases - an action which is quite unnecessary given the fact that legitimate pastoral rights will always prevail in matters of dispute.

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Invited Responses to Papers Presented

PERCEPTIONS OF ARS 10TH BIENNIAL CONFERENCE

Simon Campbell
"Norwood", PO Box 286, Blackall QLD 4472

Overall

The most striking aspect of today was that we seem to be accepting by default the steadily declining role of knowledge as a useful tool to help achieve community goals, when there is a real need for the Rangelands Society to deliver to the community some effective tools to manage change in the future.

Comments on the symposium

In the symposium we had a very broad canvass painted for us - a lot of depth and colour - but I enjoyed the excellent visionary scenarios and analysis of the global economy, and the bedtime stories of the planet's first titillating experience in ethical foreplay. I was delighted to hear that we have suddenly, maybe by Prozac induced water reservoirs all around the world, developed a relaxed and globally ethical society. The picture painted seemed to conveniently ignore some of the nastier facts, for example that the concealed global drug economy might be larger that the Japanese economy. Perhaps Prozac was too soft an option!

I wasn't terribly taken with the suggested success record for communitarianism, but none the less I enjoyed the discussion. In another forum one could argue that western liberal democracies could be accused of a global distortion of basic food, water and survival resources of an unprecedented scale in human behavior, which is conveniently financed by an environmental correctness bordering on militarism.

I enjoyed the symposium a great deal, and it delivered a range of visions, aspirations and challenges that are really important to our collective intellectual development. Jeanne Piaget the famous researcher wrote not only about child behaviour but cognitive ontology, the evolution of how we learn. He described the process of learning as being driven by the challenge of the encounter of an individual with something that the individual does not understand. The challenge is what drives learning. Well, I enjoy the challenge, and I like to attempt to learn. The symposium was fast, tight and hard, and very good.

Impressions of the Gatton ARS Conference

Moving on to a loose collection of observations, the overriding impression - and I found this quite scary - was the government and society grappling and failing to achieve any understanding of either macro environmental or macro economic linkage broader than that particular community of interest. Simple environmental concepts, that for instance water from my home at Blackall ends up at the other end of the continent in Lake Eyre appear to be a struggle for State governments to comprehend in a way that is timely and delivers effective management. There is still a struggle to understand the competitive uses of rangeland ecosystems (agricultural, habitation, employment, spiritual, biodiversity, conservation) are not only competing for access and primacy inside Australia, but the economic and conservation systems compete in product and concept with similar products and values from the sagebrush, or the Mato Grosso. I thought Nick Able and Beth Woods well able to objectively analyse some of these things.

The concurrent impression in this thing called the ARS has or is developing a dutifully considered philosophy of resource use and research activities which have a good understanding of participant conceptual frame works and the global environmental picture, and I am having trouble meshing that with what governments ***actually*** do.

This knowledge seems at odds with another factor that came to me out of the presentations today. This was a general acceptance by all of us here of the importance of public media as dictators of reality, and worse, as the key drivers of policy formulation at ministerial levels of government. This leaves me reeling. I have a lot of trouble reconciling that we say we've got good objective information developed from careful research and analysis, but we accept on the other hand that we are heading down a subjective path to formulate national policies.

In my head, I suppose, I have always thought that society and its' attitudes, values, desires and ethics, as a construct, had managed to involve some scope and range of science, knowledge and skills and those who are able to help us towards whatever the goals of society might be. We'll return to that in a second because it looks as if it hasn't.

Ultimately, the skills and considerable imagination of Australian Rangeland Society members needs to be directly engaged in the resolution of the considerable challenges that face landscape management in any community, and I don't know if that engagement is happening. For at least three Rangelands conferences (and they are two years apart approximately - so for six years) I have been hearing appropriate dialogue about the need to consider social attitudes and values and context, but unless we produce some significant products and impacts and achievements, we are collectively in grave danger of playing an infinitely attractive aesthetic game like "Das Glasperlenspiel" (or "The Glass Bead Game") (Hermann Hesse) arranging exquisite objects to an ethereal music. Society needs some outcomes!

It seems that unless ARS participants can actively engage in situations or positions or processes that deliver the result of this empirical research to solve society's problems, we will have failed. The relative coincidence between Jenny Crichton's description of a social and concerned society and those of David Byrne's constituents are extremely close; so the problems should be things that we can attack and they are not always or necessarily one group versus another.

My concern is that if we are not careful, we will move from this enormous valuable western objectivity in Figure 1, to something that looks like Figure 2, where the knowledge and skill is removed from decision making processes, and society is left pursuing its goals because it is a warm and comfortable and familiar thing to do.

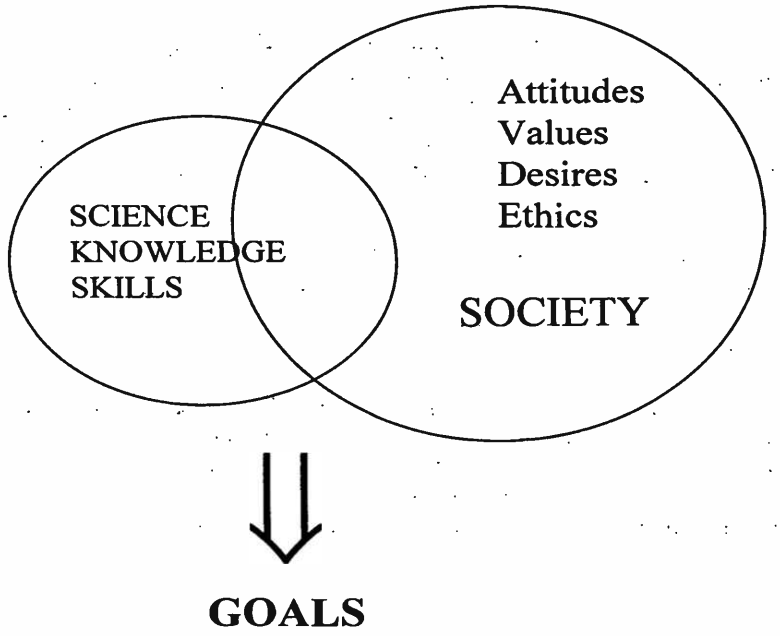

Figure 1. Decision making process with valuable western objectivity

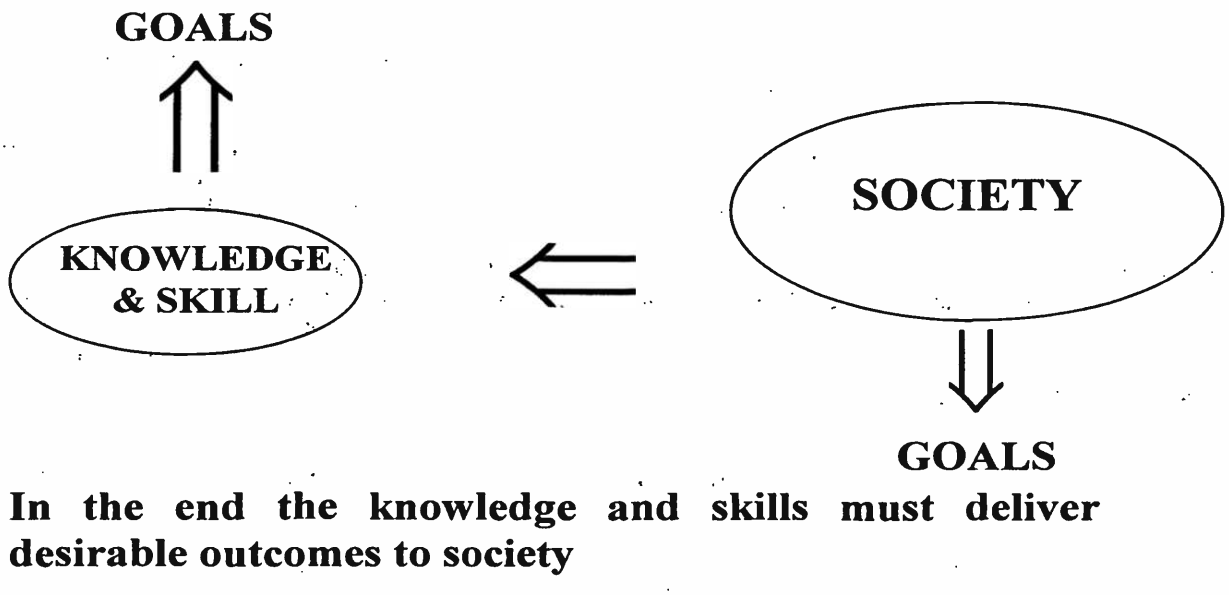

Figure 2. The decision making process where knowledge and skill are removed